1-1-2005

The implementation of knowledge-focused practices in international tourist hotels : a quantitative study of knowledge sharing

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THE IMPLEMENTATION OF KNOWLEDGE-FOCUSED PRACTICES IN INTERNATIONAL TOURIST HOTELS: A QUANTITATIVE STUDY OF KNOWLEDGE SHARING

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A Thesis Submitted in Fulfilment of the Requirements for the Award of the Degree of Doctor of Philosophy in Management at the Faculty of Business and Public Management, Edith Cowan University, Western Australia

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Date of Submission: February 2005

ABSTRACT

The purpose of this study is to investigate knowledge sharing and leveraging of the flow of knowledge in international tourist hotels in Taiwan. It explores how employees' competencies for and attitudes towards learning, sharing and storing knowledge influence organisational knowledge sharing. In addition, it examines the extent to which social interaction, leadership styles and organisational culture affect knowledge sharing. A further aim of the study is to explore whether knowledge sharing makes a significant contribution to organizational learning and organizational effectiveness.

These aims were pursued in three phases: first, an exploratory qualitative study based on semi-structured interviews; second, pilot testing of the questionnaire for the main study; and third, quantitative data collected by questionnaire in a cross-sectional study of a sample of hotel employees.

Drawing on thirty-five semi-structured interviews from four international tourist hotels, the pilot study found that interviewees attached a high level of importance to acquiring, sharing and storing job-related knowledge, and these practices existed informally to some extent in each company. It also clearly identified several common factors which inhibited the effectiveness of the knowledge sharing process in these hotels. With respect to the content of shared knowledge, respondents revealed taken-for-granted assumptions about what was important to share and marked differences about what counted as knowledge. Finally, in all participating hotels 'trust' and 'mutual sharing' were major issues in need of more attention.

The survey returned 499 useable replies. The results showed that leaders played the roles of mentor, facilitator and innovator, to nurture a collaborative culture fostering innovation, employee involvement, the development of group cohesion and morale, and to minimise competition and punishment. It was noteworthy that a majority of respondents tended to share their knowledge in spontaneous conditions rather than in pre-organised events. In addition, leaders

encouraged and focussed on positive individual attitudes to learning, knowledge sharing and storing. All of these contributions facilitate the transformation of the collective individual knowledge to organisational knowledge without creating orphaned knowledge or knowledge depreciation. This results in the advancement of organisational learning and, eventually, greater organisational effectiveness.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

i. incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;

ii. contain any material previously published or written by another person except where due reference is made in the text; or

iii. contain any defamatory material.

Signature:

Date   01 Feb 2005

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CHAPTER ONE: INTRODUCTION

Knowledge Management is a topic of considerable interest amongst researchers in management and other fields at present. This study aims to explore the nature and extent of knowledge sharing activities and their contribution to organisational effectiveness in hotels in Taiwan. This chapter introduces the concept of KM from the perspectives of organisational effectiveness and employee turnover. It then introduces the study questions and contributions to academic literature and management practice.

1.1 THE BACKGROUND OF THE STUDY

1.1.1 THE SOCIAL CONTEXT OF KM

Knowledge management (KM) has been studied in a number of disciplines. Much of the literature describes it from an Information Technology (IT) perspective. While IT clearly plays a crucial role in new approaches to managing knowledge, the technology has been over-emphasised by some scholars and practitioners. As Nonaka (1985, 1988), Sveiby and Lloyd (1987) and Davenport and Prusak (2000) have argued, the technology is designed and operated by people and its contribution to managing knowledge depends on fitting the *social context* of an organisation. As Puccinelli (1998b) proposes

> "... knowledge is fundamentally a product of people and not technology. ... Sharing is such a valuable component to the success of KM because it focuses on the human side of knowledge" (p.40).

Similarly Mason and Pauleen (2003) note that "KM is essentially a deeply social process, which must take into account human and social factors" (p. 39), and Politis (2003) writes that,

> "the new model of knowledge management is about people and actions and nothing to do with technology (technology just happens to be one of the ways of using knowledge to improve and enhance employees' performance)" (p. 55).

Büchel and Raub (2002) note that as information and knowledge are recorded in technology, users lose understanding of its social context. As well, many authors point out that technology is rarely used to store tacit knowledge (Benson, 1997; Davenport & Prusak, 2000; Olivera, 2000). Therefore it is critical to study KM as

a social activity. Davenport, De Long and Beers (1998), Ruggle (1998) and Easterby-Smith, Crossan and Nicolini (2000) have pointed out that there is a lack of empirical research on social aspects of KM, in contrast to information systems and technology. This study aims to contribute to filling that gap.

1.1.2 THE PERSPECTIVE OF ORGANISATIONAL EFFECTIVENESS

A number of studies show that practising KM results in improved organisational effectiveness (e.g. Petrash, 1996; Dash, 1998; Parlby, 1998; Gupta & Govindarajan, 2000; Olivera, 2000; Storck & Hill, 2000). Moreover, Knapp (1998) proposes that knowledge assets concern all sectors of the economy. The present study aims to investigate the hypothesis that managers in the hotel industry implementing KM would find the costs in terms of time, effort and money would be repaid in terms of improved hotel effectiveness.

Many studies show that employees are major contributors to overall organisational effectiveness and particularly that a high level of employee involvement in organisations is important (e.g. Guthrie, 2001; Stovel & Bontis, 2002). Employee involvement includes stimulating competencies through training and development, fostering the sharing of knowledge amongst co-workers, and distributing otherwise 'orphaned' knowledge held by individuals or business units across the organisation. An aim of this study is to test the hypothesis that employee competencies, attitudes and behaviours towards sharing knowledge affect organisation-level knowledge sharing, which in turn improves organisational effectiveness.

The role of different media for employee knowledge sharing is another important topic in developing an organisation's KM focus. This study investigates whether knowledge is better transferred through conversations or formal events, such as meetings, and what employees preferred ways of storing knowledge are so that it becomes part of organisational systems, such as physical or electronic documentations. Without effective means of sharing and storing certain kinds of knowledge, as employees come and go and leadership and ownership change such knowledge might dissipate. As Wagner (2003) states, "organisations learn haphazardly from experience and rarely capture it in ways that can be transformed

into available knowledge embedded in the organisational memory (p. 98)".

Recently, increased numbers of hotels have applied the concept of the profit centre at division/department level (Arora, 2002). As one department needs a product or service from another, funds are transferred in exchange. This process may lead to a build up of invisible boundaries among departments, and consequently employees might become hostile to other departments, rather than collaborative. Therefore, knowledge collecting, sharing and transferring may become less permeable and more difficult. Arora's research (2002) shows that job rotation and transfer can eliminate this problem. Social activities and interactive discussions can be organised for employees from cross-departments.

The issue of how these kinds of *sharing, acquiring and retaining* affects hotels' effectiveness has been ignored by academic researchers in the hospitality field, and apparently also by hotel managers. If these concepts could be applied to business operations, it seems that hotel owners would gain valuable *assets* in terms of knowledge that can improve business competitiveness.

1.1.3 THE PERSPECTIVE OF EMPLOYEE TURNOVER

Stovel and Bontis (2002) identify two types of employee turnover: voluntary turnover and involuntary turnover. The former occurs when employees choose to transfer to other departments or to resign, while the latter means dismissal of employees. These groups of employees are managed with difficulty by organisations, incurring not only loss of human capital and the relational capital of the departing person's knowledge, but also costs of replacing the person. Replacement costs include recruitment and training expenses, costs of the potential detriment to customer services in the earlier stage of employment and decline in productivity due to the newcomer's psychological impact on the organisation as a result of his/her effort to understand the job. In addition to these costs, the assets of this departing employee might be automatically transformed to competitors as they work for them, advantaging the competing organisation (Stovel & Bontis, 2002).

The worst-case scenario would be that good performers depart and poor

performers occupy their positions. This dysfunctional turnover deteriorates overall organisational competitiveness and success through reduced knowledge creation, poor services, knowledge depreciation, low participation in new systems, policies or programs, and decreased productivity.

Employee turnover has been a considerable problem for many hotels. The cause of turnover is often poor strategic human resource decisions: often, hotel managers in many parts of a hotel select relatively low skilled employees and pay minimum wages. Examples include bellboys, housekeepers, waiters, maintenance workers, and grounds keepers who are willing to work for low wages. However, work experience builds up their individual capability, no matter what level they are in the organisational hierarchy. Experience eventually enables them to perform effectively and efficiently; resulting in a high level of organisational performance in terms of the quality of customer services. Thus, employee capabilities become organisational assets which are lost during turnover. If staff were stimulated to share knowledge with other colleagues, individual job performance and organisational performance might both be positively improved. Effective knowledge management requires valuing human capital.

1.1.4 KM IN THE HOSPITALITY LITERATURE

The hospitality management literature mainly focuses on areas of quality assurance, customer satisfaction, employee satisfaction, yield management, loyalty and TQM. The knowledge *sharing* issue can be seen in some of these areas but the discussion focuses more on control and power aspects; for example, empowerment, delegation, sharing risks and ownership of the job. These issues are often discussed in the context of how to implement reward programs, including intrinsic and extrinsic rewards, and profit sharing (Eyster, 1988; Garcia, 1988, Brymer, 1991; Lefever & Reich, 1991; Partlow, 1993; Hales & Klidas, 1998). In addition, although the literature does address information technology issues, it concentrates on the introduction and development of information technologies and their benefits and costs rather than the impacts on knowledge sharing and use (see for instance, Chandrasekar, 1989; Pine, 1992; Hudson, 1994; Ford, Ford & LeBruto, 1995; Jones, 1996; Smith & Gregory, 1996; Van Hoof, Verbeeten & Combrink, 1996; Feinstein & Stefanelli, 1999).

Thus, there is a paucity of research in the hospitality field on the capturing of individual knowledge, the sharing of it and the transferring of it to organisational assets. These have been extensively studied in the knowledge management literature in other fields.

1.2 RESEARCH FOCUS OF THE STUDY

1.2.1 OBJECTIVES OF THE STUDY

The study focuses on the interactions among employees in hotels in Taiwan, examining the dissemination of knowledge and leveraging of the flow of knowledge. The main objective of this thesis is to explore the extent of knowledge sharing and its effect on organisational learning and organisational effectiveness, from the perspectives of leadership roles (i.e. facilitator, mentor, innovator, broker, coordinator, monitor, producer and director) and organisational culture (with a focus on collaboration). Secondary objectives of this research are to explore how employees view the importance of knowledge sharing, and to understand how they perform knowledge sharing and knowledge storing in practice.

1.2.2 RESEARCH QUESTIONS

In order to accomplish these objectives, the following research questions are posed.

1. To what extent do employee competencies and individuals' attitudes to learning, and to sharing and storing knowledge, influence organisational knowledge sharing?

2. What is the extent and nature of knowledge sharing in international tourist hotels in Taiwan?

3. What is the extent to which leadership roles influence knowledge sharing?

4. What is the extent to which organisational culture with a focus on collaboration influences knowledge sharing?

5. What is the extent to which knowledge sharing influences organisational learning and organisational effectiveness?

1.3 SIGNIFICANCE OF THE STUDY

1.3.1 PRACTICAL VALUE FOR HOTEL OPERATIONS

From the organisational perspective, the study seeks to provide hotel managers with evidence of the significance of KM, and of how knowledge is managed (focused), mismanaged (mis-focused) or unmanaged (un-focused). More specifically, the research aims to inform real-world practice with respect to:

> ➢ the extent of KM practices in the hotel industry, especially with respect to knowledge sharing,
>
> ➢ the nature of KM practices and difficulties of/obstacles to implementation,
>
> ➢ the types of knowledge shared and media for knowledge sharing
>
> ➢ approaches to using knowledge storages/repositories,
>
> ➢ individuals' willingness to share knowledge in daily operations, and
>
> ➢ how individuals are most likely to deal with knowledge they receive.

The outcomes of the study can be used by human resource managers and information system managers for future organisational advancement through improving organisational structure, corporate culture, human resource training and development, and leadership practices.

1.3.2 ACADEMIC KNOWLEDGE

Authors of KM studies (for example, Dash, 1998; Parlby, 1998; Gupta & Govindarajan, 2000; Olivera, 2000; Storck & Hill, 2000) have proposed many variables that might influence individual learning, knowledge sharing and organisational effectiveness. Some of these have been empirically investigated, including rewards, IT variables, social interaction and organisational culture. However, there are no known studies that attempt a broad integration of the factors of individual behaviour, leadership roles, organisational culture, knowledge sharing, organisational learning and organisational effectiveness. This is the major contribution of the present study.

These factors can be divided into three groups at organisational and

individual levels of analysis. The contribution of this study in exploring whether organisational-level knowledge sharing significantly improves organisational learning and organisational effectiveness should be of considerable interest in the hospitality and KM literatures. A second organisational-level contribution is to examine the role of two determinants to sharing and leveraging organisational knowledge: organisational cultures which emphasise collaboration, and leadership roles. The relationships of these constructs should be of interest in the management, organisational behaviour and KM fields. Finally, the relationship of individual-level constructs of attitudes to learning, sharing and storing, along with individual competencies, and organisational knowledge sharing should be of interest in the KM and hospitality literatures.

1.4 RATIONALE FOR SELECTION OF THE STUDY SETTING

The rationale for selecting the hospitality industry as the study setting has three aspects. First, there is a lack of research on KM and especially on the related issues of 'people management' in hospitality and its related fields. Much hospitality literature focuses on the development of new technology and its application to operations (Chandrasekar, 1989; Pine, 1992; Hudson, 1994; Ford et al., 1995; Jones, 1996; Smith & Gregory, 1996; Van Hoof et al., 1996; Feinstein & Stefanelli, 1999). Relatively few studies focus on the management of people to maximise the value of the technology. Since the hospitality industry mainly sells intangible products and people-focused services to its customers, the most important questions are how to provide better services and how to encourage repeat customers. If employees share their experiences from the first-time service encounter with others, orally and/or by written documents, this would improve overall organisational performance.

Second, KM is especially crucial to the hotel industry because of the turnover rates and also because, as a service industry, customer contact is a critical source of knowledge about market and customer satisfaction. Previous studies of KM in other fields do not necessarily apply to this industrial environment. It is therefore necessary and significant to study knowledge sharing and management in the hotel industry. Knapp (1998) proposes, "organisations in all industries, in all

sectors of the economy, are beginning to focus on their knowledge assets. Leading the way is the service sector ... for which knowledge is the primary ... asset" (p.3). Hospitality is one such service industry.

The more familiar context of KM studies is in knowledge-based and information technology-based industries such as finance, management consultancy and marketing (Chase, 1997; Tauhert, 1998; Chong, Holden, Wilhelmij & Schmidt, 2000; Martin, 2000). One exception is Engstrom, Westnes and Westnes (2003), whose research in 13 Radisson SAS chain hotels explored the relationship between evaluation of intellectual capital and organisational performance. From their finding of enhanced business performance through assessing human, structural and customer capital, they call for future research assessing KM in the hotel industry.

1.5 THESIS OUTLINE

Chapter Two is a literature review, describing the emergence and development of the knowledge management concept. KM is composed of nine aspects: fundamental concepts of knowledge management (definitions of knowledge, individual knowledge, organisational knowledge and knowledge management), knowledge sharing, knowledge acquisition and knowledge storage (organisational memory), as well as organisational culture, social interaction, leadership roles, organisational learning and organisational effectiveness. The last five aspects are logically linked with the concept of knowledge management.

Chapter Three presents the theoretical framework developed from the literature review and the results of the exploratory qualitative study (described in Chapter Four). This chapter establishes hypothesised relationships and exploratory questions addressing the five research questions above. It also describes the research design and methodology, including population and sampling, research methods for both the exploratory qualitative study and the main quantitative study, instruments and approach to data analysis.

Chapter Four reports the results of the exploratory qualitative study. Thirty-five respondents from all levels of the organisational hierarchy in four hotels attended semi-structured interviews lasting approximately one and a half hours. The data were translated from Chinese to English by the researcher. Findings are illustrated with verbatim transcripts, and data analysis used the grounded theory approach. The exploratory study generated an interesting list of attributes of KM in hotel management, providing a meaningful guide to adjusting the theoretical framework and developing the main survey questionnaire.

Chapter Five presents the results of the main quantitative study. Of the 1200 questionnaires distributed, 499 useable returns were received. Hypotheses and exploratory questions were examined with descriptive statistics, reliability analysis, correlation, factor analysis, analysis of variance and multi-regression analysis, using the SPSS software package.

Chapter Six summarises these quantitative analyses and discusses their meaning in terms of the research hypotheses and questions. Implications for the literature are drawn, highlighting the original contributions of this study to empirical knowledge, the theory of KM, and management practice in the hotel industry.

Chapter Seven draws conclusions from the previous chapters, including theoretical and practical implications of this research. It addresses limitations of the study and presents recommendations for future research.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

"Successful companies of the 21st century will be those that do the best jobs of capturing, storing and leveraging what their employees know" (Hewlett Packard Chairman and President, Mr. Lew Platt; cited in Martiny, 1998, p.71). In today's e-economy, companies must be capable of harnessing organisational knowledge and distilling and integrating it into corporate strategies (Knapp, 1998). Weathersby proposes that "knowledge management is the core of all Learning Organisations. It creates linkages among employees, customers and suppliers that support both a demand pull and supply push of information" (1999, p.7).

The development of knowledge management (KM) research has focused primarily on technological aspects. However, there has lately been an increase in studies of social factors in KM generally and in use of the technologies. This is a return to questions raised by early writers such as Nonaka (1985, 1988). Human behaviour is the key to success or failure of KM strategies, as KM involves an emphasis on organisational culture and teamwork, the promotion of learning and the sharing of skills, experience and knowledge (Bollinger & Smith, 2001). Thus, effective KM is a function of both technological *and* human resources, and the relationship between them is critical (Greengard, 1998b).

This literature review aims to help develop the theoretical framework and research plan for this study. The review provides a comprehensive understanding of the KM concept and explores the elements contributing to overall organisational effectiveness. In relation to the concept, the constructs of KM, knowledge acquisition, knowledge sharing and knowledge storage are examined. Organisational effectiveness is examined in terms of the interrelation between KM and the various components identified in the literature: leadership roles, organisational culture, social interaction and organisational learning (Figure 2.1).

Fundamental concepts

➤ Fundamental concept
➤ Supportive KM culture

Organisational culture

➤ Social interaction
➤ Communities of practice
➤ Communication channels
➤ Social Networking
➤ Dialogue

Social Interaction

Leadership Roles

➤ Individual learning and organisational learning
➤ Behaviourist and cognitivist perspectives of organisational learning

Organisational learning

Masculine/Feminine traits

Organisational hierarchy

Organisational effectiveness

➤ The rationale
➤ The concept of Knowledge
  (Information/ knowledge/ intellectual capital, Orphan knowledge, Organisational slack, Knowledge interflows, Individual/organisational knowledge, Tacit/implicit/explicit knowledge
➤ KM definitions
➤ Obstacles
➤ Knowledge acquisition
  (The learning concept, Absorptive ability, Knowledge acquisition)
➤ Knowledge sharing
  (Fundamental concept, Synergy effects, Hoarding issues, Knowledge depreciation)
➤ Knowledge storing
  (Fundamental concept, Organisational memory structure, Building-up the storages)

Figure 2.1 The Outline of the Literature Review

2.2 WHY IS KNOWLEDGE MANAGEMENT SPREADING?

The spread of knowledge management appears to be a result of growing managerial interest in eight areas: increasing the firm's competitiveness; improving customer satisfaction; using electronic information to create organisational knowledge; speeding up knowledge transfer to cope with changing markets; maximising employees' sharing of knowledge and minimising loss of knowledge through turnover; creating a culture that supports sharing knowledge held by individuals; improving knowledge of the costs and benefits of KM; and providing employees with knowledge of human resource development opportunities.

The first factor promoting KM is the role of business globalisation, information technology driven business operations, business process re-engineering and mergers in creating a more *uncertain and competitive business environment*. In this, new ideas are rapidly generated and products and services are constantly innovated, and therefore capturing and exploiting information and knowledge, both from inside and outside the company, has become a part of managers' routines. Information is ubiquitous: knowledge arises from an organisation, its employees, and the industrial environment. Keeping this knowledge updated and leveraging both visible and intangible knowledge resources is consequently now considered essential (Liebowitz & Beckman, 1998; Teece, 1998b; Hrop, 2000; Martin, 2000).

Second, improving *customer satisfaction* is seen as critical in this environment, and managers are increasingly interested in quality of customer services, for example in solving customers' problems and promptly attending to their requests. Consequently, employees need to make decisions and judgments on the spot. Employees' competency to deal with this area of uncertainty could be amplified through knowledge transfer from other employees and from one part of an organisation to another (Bhatt, 2002).

Third, in the era of the *electronic economy* e-products and e-services are becoming widely available, increasing the amount of information and knowledge available. Consequently, educating employees on how to effectively organise, filter

and apply such information, turning it into organisationally useful knowledge, is becoming an important aspect of KM (Raisinghani, 2000).

Fourth, since information technology and customer needs are *changing at an increasing rate*, and products and services are easily imitated by competitors, companies face the challenge of speedy application of knowledge and continuous innovation (Ellinger, Watkins & Barnas, 1999; Wiig, 1999b). Flexibility and change are two key terms, and managers need to know how to stimulate employees to adapt to change by efficiently acquiring new information and sharing it with others.

Fifth, there is a trend towards training employees to be *multi-skilled*, ensuring their competencies are completely brought into play in the job. For example, companies may attempt to organise a staff database to place the right person with the right skills and knowledge in the right position. However, employees' tacit knowledge is often difficult to capture, and many organisations neglect employees' skills, expertise and knowledge as a manageable resource (Caddy, Guthrie & Petty, 2001). Further, if employees are not motivated to share what they know, they may hoard rather than share knowledge, reducing its re-use and the company's knowledge 'inventory'. Finally, when employees leave without passing on knowledge, the company suffers loss of competencies (Liebowitz & Beckman, 1998; Tauhert, 1998; Wilson, 2000). The challenge of finding and retaining knowledgeable workers highlights the notion of a **sharing** rather than **hoarding** organisational climate (Parlby, 1998; Ruch, 2000).

Sixth, there is growing concern about loss of *intangible* knowledge. Since knowledge is ubiquitous and intangible, just finding it is one of the most challenging jobs for an organisation. Lew Platt, CEO of Hewlett-Packard (quoted in Caddy et al., 2001), has stated "If HP knew what HP knows, we would be three times as profitable" (p. 387). It is crucial to learn how companies turn 'intellectual liabilities' caused by lost knowledge into 'intellectual assets'. Caddy et al. (2001) propose that development of an organisational culture towards flexibility, trust and openness is a key to this.

Seventh, managers increasingly see great *business benefits* from establishing

KM systems. The studies of Parlby (1998), Ahmed, Lim and Zairi (1999) and Lee (2000) reveal benefits including: minimising potential losses on intellectual capital from employees leaving; improving job performance by enabling all employees to retrieve knowledge when they need it; increasing employee satisfaction through obtaining knowledge from others and obtaining rewards such as career progression; providing better products and services; eliminating the duplication of knowledge and avoiding organisational 'silos'; and making better decisions. As Beckett puts it, "knowledge will be characterised as providing an enhanced capacity to act in ways that ultimately benefit the customers of the organisation" (2000, p.312), creating greater competitiveness. Equally, KM involves costs in terms of time and money (Hansen, Nohria & Tierney, 1999). It is therefore a critical business issue to establish KM practices that suit the company's particular operations.

Finally, there is growing concern about giving employees knowledge of the wide array of *human resource development* options. An effective organisational repository allows employees to easily retrieve the company's human resource policies, such as benefit plans and 'training-and-development' opportunities, to make better decisions about life events (Fox, 2001). If employees are given this kind of knowledge they might not leave the job.

2.3 WHAT IS KNOWLEDGE?

2.3.1 INFORMATION, KNOWLEDGE AND INTELLECTUAL CAPITAL

Understanding the role of knowledge in organisations involves distinguishing knowledge from information, explicit from implicit knowledge, and examining the role of knowledge in intellectual capital.

Albert Einstein's statement "knowledge is experience; everything else is just information" (cited in McDermott, 1999, p.103) is as relevant to the hotel industry as to quantum physics. In the KM literature, Nonaka and Takeuchi (1995) have described knowledge as a 'flow' between tacit and explicit forms of experience. That is, to be useful to an organisation, knowledge must involve flow of information from unspoken experiences into conscious and verbal (explicit)

awareness where 'thinking' processes can be applied (Lang, 2001). Explicit knowledge can then be publicly shared in various ways.

A comprehensive definition, incorporating implicit and explicit knowledge in the organisational context, is offered by Prusak and Davenport (1998):

> "Knowledge is a fluid mix of experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organisations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices and norms" (p.5).

Kakabadse, Kakabadse and Kouzmin (2003) argue that 'knowledge' and 'information' are used interchangeably in the organisational literature, ignoring the conceptual distinctions in the 'data-information-knowledge-wisdom' chain. For example, these terms are used interchangeably in the work of Huber (1991) and Akgun et al. (2003).

Malhotra (1998b) distinguishes the 'information value chain' from the 'knowledge value chain'. The former involves technological systems as a crucial element guiding the organisation's business processes, while in the latter humans have a vital role in continuously assessing information contained in technological systems.

Going further, McDermott (1999) emphasises the role of social interaction in the distinction between information and knowledge:

> "Knowing is a human act; Knowledge is the residue of thinking; Knowledge is created in the present moment; Knowledge belongs to communities; Knowledge circulates through communities in many ways; New knowledge is created at the boundaries of old" (p. 105).

This is the point where 'personnel' management becomes essential in the KM concept. Only by means of human actions and social sharing, can knowledge arise from information and produce continuing best practice. Technology and information cannot function on their own.

Knowledge is also described in terms of 'intellectual capital'; for example, Bontis (1999) describes intellectual capital as "the stock of knowledge" (p.9). Here, knowledge refers to organisational knowledge. He provides a theoretical view of

organisational knowledge as "a static asset in an organisation – a so-called stock" (p.9). The stock consists of the collective intelligence which "could be found in individuals, organisational routines and network relationships respectively" (p.9). An implied difference between the concepts of KM and intellectual capital is that the latter does not involve changing personal cognitions and/or behaviours: 'capital' is more a term used in accounting for assets than organising them for maximum value.

Edvinsson and Malone (1997) and Stovel and Bontis (2002) define intellectual capital as knowledge which remains in an organisation. For them, it consists of human capital, structural capital and relationship capital. Human capital is what all employees know, and their ability to apply and create new knowledge; it is an accumulation of individual experience, skills and tacit knowledge. Structural capital is a form of explicit knowledge that can be retrieved at any time: after individuals gather and process knowledge, they retain and store it in organisational repositories in the form of organisational systems and structures. Relationship capital is the added value created from the interrelation between organisations and their customers, suppliers and other external stakeholders.

A definition that captures the above concerns for the purpose of this thesis is that of Hargadon and Fanelli (2002):

> "knowledge exists in the organisation's actions - the physical and social artefacts of the organisations that include technologies, routines, standard operating procedures, blueprints, products, processes, databases, and even physical layouts of the organisation" (p.290).

Specifically, the operational definition of 'knowledge' used here covers *job-related entities* (such as daily routines, hotel products and services offered, customer interaction skills, interpersonal relation techniques, technical proficiency in daily operational routines, employee behaviours, standard operation procedures, information and strategies about competitors' and customers' knowledge, etc.) along with *individuals' insights* and *past working experiences* that are relevant to the current job.

2.3.2 THE CONCEPTS OF ORPHAN KNOWLEDGE, ORGANISATIONAL SLACK, REDUNDANCY AND DISPERSION

A critical distinction in KM is between *individual* and *organisational knowledge.* Knowledge held by individuals but otherwise unused by the organisation has been described by Caddy et al. (2001) as *orphan knowledge,* a source of 'intellectual liability' in the company: "the focus for orphan knowledge is on isolation and separation: the separation of this knowledge from other 'mainstream' knowledge in the organisation" (p.385). Companies have to be aware of the need to fully control and utilise their internal knowledge resources, including both explicit knowledge, such as operational procedures, routines, policies and norms, and tacit individual knowledge located only in the minds of staff. If not fully managed such 'missing and hoarded' knowledge becomes orphaned. When staff are off-duty, transferred to other positions or depart for other companies, orphaned knowledge is invisibly transformed into lost knowledge.

Knowledge management involves capturing not only such knowledge of internal matters, but also knowledge of the external environment. Types of external knowledge which may cost the organisation if lost include knowledge of customers, competitors, suppliers and the government.

In organisations, there may be an adequate level of shared knowledge among members but insufficient use of their individual knowledge, the so-called *organisational slack.* Nohria and Gulati (1995) define slack as "the existence of a 'pool of resources' in an organisation that is in excess to the minimum necessary to produce a given level of organisational outputs" (p.32). This concept implies that much knowledge residing in an organisation has not been completely applied to organisational advancement. Through organisational learning and KM practices, shared knowledge can be refined and enriched, and orphaned knowledge can be captured and transformed in communities of practices.

In addition to this concept of organisational slack, *redundancy* should be incorporated into KM. Redundancy requires sharing information and knowledge through inter-team learning and sharing when generating new ideas for business

activities, management practices or related creations. Balogun and Jenkins (2003) describe redundancy as "a key enabler of the types of communication mechanisms described under knowledge codification and diffusion" (p.255).

Becker (2001) claims organisations have particular difficulty with the *dispersed* nature of organisational knowledge, and recommends five strategies to cope with this. These are: first, the design of communication structures or information channels such as corporate 'yellow pages' or job rotation schemes; second, the identification of gaps between the knowledge an organisation should possess in order to achieve its goals and the knowledge already residing within it; third, the development of 'communities of practice' where employees interact with others and transfer their knowledge; fourth, the practice of delegation and decision-making discretion; and last, making knowledge openly accessible and available.

These concepts of orphan knowledge, organisational slack, redundancy and dispersion show how varied, dispersed and ubiquitous knowledge needs to be in organisational knowledge acquisition and sharing processes (Orlikowski, 2002).

2.3.3 TYPES OF ORGANISATIONAL KNOWLEDGE RESOURCES

Knowledge is one of the key resources that constitute a firm: "all resources in a firm are organically linked with one another in the firm's technological and human (e.g. cultural and political) systems by means of organisational routines and activities" (Gupta & Roos, 2001, p.298). Ways of classifying knowledge resources include distinguishing abstract knowledge from the context-specific action-oriented knowledge involved in 'routines', and 'schematic' from 'content' resources.

Context-specific knowledge is especially important, although often overlooked by developers of information systems. Employees usually work under 'extemporaneous conditions of habituated interactions' (Strauss & Corbin, 1998); in other words, in a workplace knowledge is mainly focused on daily operations, specifically so-called 'routines'. Routines, according to Grandori and Kogut (2002), can be viewed as "programs of action - not only a form of 'rule-guided behaviour', but more precisely as context-specific, experience-based, action rules" (p.225). Zollo and Winter (2002) describe routines as "stable patterns of behaviour that

characterise organisational reactions to variegated internal or external stimuli" (p.340). These ideas imply that when employees take on new jobs they have to get used to new routines in order to achieve good performance, even if the former workplace had a similar job description and responsibilities. Organisational knowledge is therefore *very* context-specific.

At the same time, organisational routines can be harmful resources when not focussed on relevant business goals. For example, Baum and Ingtam (1998) consider

> "standardisation may mean that routines developed to reflect the experience of some organisations are focused on related organisations operating in environments where the routines would be harmful" (p. 1004).

Holsapple and Joshi (1999) distinguish knowledge types on another dimension: schematic vs content resources. *Schematic resources* include regulations, roles, corporate culture, purposes, strategies, and procedures. These are composed of important elements of organisational behaviours. *Content resources* consist of *participants* and *knowledge artefacts*. *Participants* include employees, customers, suppliers and computer systems that *depict and process* knowledge. On the other hand, *artefacts* are designed for *disseminating and storing* knowledge rather than processing it. Knowledge artefacts include "file cabinet contents, memos, videos, manuals, patents and products" (Holsapple & Joshi, 1999, p.7-3).

2.3.4 VALUE CREATION FROM KNOWLEDGE INTERFLOW

A crucial aspect of knowledge management is the recognition that knowledge increases its value when shared with or transferred to others. Sveiby (2001) identifies and categorises nine forms of this value creation that can be used for diagnosing knowledge transfer in organisations and reinforcing desired behaviours. These nine approaches result from the combination of three 'sources' and 'destinations' in knowledge interflows: individual competence, internal structure and external structure as described in Table 2.1.

TABLE 2.1 Nine Ways Knowledge Creates Values *

Types	Concerns	Strategic focus	Solving Tactics
Between Individuals	The best practice of communication channels across all hierarchical levels within an organisation	The improvement of transfer of individuals' competencies amongst staff	* Building up trust and trustworthiness in organisations, openness, flexibility and sharing working climate E.g. Promoting team/social activities (such as dialogue rooms); Organising job rotations; Developing the mentoring programs/apprentice schemes
From Individuals to External Structure	The best practice of employees' competence being transferred to outside	The improvement of all stakeholders' competencies (such as customers, suppliers)	* Educating customers and suppliers, * Eliminating unnecessary paperwork E.g. Enabling stakeholders to learn company's products, right ways to use the products and related issues
From External Structure to Individuals	The best practice of capturing knowledge from stakeholders	The improvement of employees' competencies from stakeholders	* Building up good relationship between people inside and outside companies E.g. Learning from customer feedback; Understanding what stakeholders' needs and wants are; Providing products meeting the above criteria
From Individual Competence into Internal Structure	The best practice of converting individual knowledge into organisational repositories	The improvement of transition from individual capability to organisational domains	* Developing database and document handling system as well as face-to-face activities to improve efficiency E.g. Establishing Intranets; and any other sort of media
From Internal Structure to Individual Competency	The best practice of capturing knowledge from organisational memory	The improvement of employees' competences from organisational knowledge	* Providing user friendly computer devices E.g. Action-based learning processes and simulations; and interactive e-learning environment
Within the External Structure	The best practice of communication channels amongst external stakeholders	The enabling of those stakeholders' to transfer their competencies amongst them	* Establishing partnership and alliances * Enhancing the image of the company and its offerings E.g. Organising product seminars for its customers and suppliers

* Source: Adapted and Converted from Sveiby (2001, p.348-352)

TABLE 2.1 (continued)

Types	Concerns	Strategic focus	Solving Tactics
From External to Internal Structure	The best practice of enabling employees to leverage knowledge between acquired external knowledge and the existing organisational knowledge	The improvement of updating organisational knowledge based on the acquisition of knowledge from external stakeholders	* Empowering the front-line staff to handle customers' complaints and special requests * Establishing alliances to develop new offerings E.g. Industrial Survey, Joint venture
From Internal to External Structure	The best practice of enabling stakeholders to leverage their knowledge from knowledge acquired from a company	The assisting of external stakeholders to update their knowledge about the company's offerings and related matters	* Providing helpdesks * Establishing Extranet * Developing an E-business E.g. Customer Information Database being set up by The Ritz Carlton Hotel; Customer Feedback and survey
Within Internal Structure	The best practice of the establishment of internal communication mechanism	The improvement of effective integration of organisational systems	* Well-developed Intranet system E.g. Employee ownership; Open Office design

2.3.5 INDIVIDUAL VS. ORGANISATIONAL KNOWLEDGE

As noted above, the difference between *individual* and *organisational* knowledge is very significant in the KM literature. *Individual knowledge* has been defined as the comprehensive interpretations and syntheses of information gathered through individual talent, competencies and past experience (Darroch, 2003). Thorbjornsen and Mouritsen (2003) describe individual competence as individual knowledge relating to a job, qualifications for performing a job, skills of action used in job routines and staff' capabilities for learning new things and developing potential skills under their own motivation.

Many definitions of *organisational knowledge* exist in the literature. These often emphasise different dimensions or elements. For example, for Bhatt (2000), "organisational knowledge is individually shared knowledge that individuals come to understand and interpret in a particular organisational context" (p.18). According to Kay (1993), organisational knowledge "is distinctive to the firm, is more than the sum of the expertise of those who work in the firm, and is not available to other firms" (p.73). Inkpen (2000) defines organisational knowledge as "the capability for

action" (p.1020).

A more specific definition useful in its emphasis on organisational routines is provided by Beckman (1999), who defines organisational knowledge as "the processed information embedded in routines and processes that enable action. It is also knowledge captured by the organisation's systems, processes, products, rules and culture" (p.1-3). This type of knowledge contributes to overall organisational competitiveness and performance through effectively capturing and sharing knowledge and developing organisational capability (also see Sena & Shani, 1999; Bollinger & Smith, 2001).

Going further, Tsoukas and Vladimirou (2001) emphasise the role of collective understanding in organisational knowledge:

> "organisational knowledge is the capability members of an organisation have developed to draw distinctions in the process of carrying out their work, in particular concrete contexts, by enacting sets of generalisations whose application depends on historically evolved collective understandings" (p.976).

Finally, Schulz (2003) emphasises that organisational knowledge occurs only when "organisations … convert tacit knowledge into explicit knowledge through codification, articulating their knowledge and storing it in a number of forms" (p.446).

Considering these definitions, organisational knowledge is defined for this study as collective knowledge that enables organisational members to deal with their job at a high level of performance. It includes knowledge of an organisation's structure, culture, history, workplace environment, norms, policies and rules, know-how, routines and operating procedures.

2.3.6 TACIT VS. EXPLICIT KNOWLEDGE

In a landmark contribution to the field of KM, Nonaka (1991) distinguishes explicit and tacit knowledge. *Explicit* knowledge can be articulated in written or oral forms, and is therefore easily acquired, transferred and shared, while *tacit* knowledge, also termed "embrained knowledge" and "procedural knowledge" (Argyris & Schon, 1978), is troublesome and difficult to articulate, describe and

communicate. Tacit knowledge is an intangible entity covering, for example, mental models, beliefs and know-how, whereas explicit knowledge has a more tangible format, as found in procedures, policies, rules and regulations (Nonaka, 1991; Nickols, 2000).

Going further, Nickols (2000) adds *implicit knowledge* as a category in between explicit and tacit knowledge: this "can be articulated but hasn't" (Nickols, 2000, p.15). An example of implicit knowledge would be new skills that have become part of day-to-day operations and are clearly visible to staff, but are not yet verbalised and written in 'standard operation procedure (SOP)' documents.

Tacit and explicit knowledge exist in both *individuals* and *organisations*, following the distinction discussed in the previous section. Matusik and Hill (1998) describe *individual* explicit knowledge as personal knowledge and skills that can be easily stated, and *organisational* explicit knowledge as knowledge found in SOPs and other forms of documentation. *Individual* tacit knowledge is deeply embedded in individual schemas, skills, habits and abstract knowledge, such as subjective insights, experiences and sensitivity. *Organisational* tacit knowledge is embedded in organisational routines, corporate and industrial culture, and organisational consensus stemming from the past.

2.4 WHAT IS KNOWLEDGE MANAGEMENT?

2.4.1 OVERVIEW

The literature on KM covers an enormous territory with ambiguous boundaries (Martensson, 2000). Bollinger and Smith (2000) divide it into areas based on three different perspectives.

First there are studies focussing on *information systems* and *information technology*. These authors are interested in development and innovation of technologies enabling employees to easily acquire, share, apply and retain knowledge resources, such as Document Management, Expert Systems, GroupWare and Lotus Notes (Beson, 1997; Liebowitz & Beckman, 1998; Davenport & Prusak,

2000).

Second are the studies of *financial value* and *intellectual capital*, which view 'knowledge' as an intangible and non-financial asset in accounting terms. These authors concentrate on measurement of such intangible assets and the financial valuing of different types of knowledge. Popular instruments developed for these purposes include Skandia's "Navigator" (Roos et al., 1997), Sveiby's "Intangible Assets Monitor" (Sveiby, 1997b) and Kaplan and Norton's "Balanced Score Card" (Kaplan & Norton, 1992, 1993). Recently, Verna Allee (2001c) has published widely on the *knowledge value* proposition. The main proponents of this approach are Nick Bontis, Leif Edvinsson, Michael S. Malone, R. Roos, Thomas Stewart, Karl-Erik Sveiby and Karl Wiig. Wiig (1997) distinguishes intellectual capital management from knowledge management this way:

> "Intellectual capital management (ICM) focuses on building and governing intellectual assets from strategic and enterprise governance perspectives with some focus on tactics. Its function is to take overall care of the enterprise's intellectual capital. ... Knowledge management (KM) has tactical and operational perspectives, KM is more detailed and focuses on facilitating and managing knowledge related activities such as creation, capture, transformation and use. Its function is to plan, implement, operate and monitor all the knowledge-related activities and programs required for effective intellectual capital management" (p.339).

The third group of writers emphasise the *management* of staff and the organisational contribution of good management. Studies of these issues have recently increased in number. Contributing authors include Ikujiro Nonaka, Thomas Davenport, Laurence Prusak, Carla O'Dell, Jackson Grayson Jr., Dorothy Leonard-Barton, and Samuel Greengard. O'Dell and Jackson (1988) summarise the emphasis in these studies:

> "knowledge management is a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organisational performance" (p.4).

It is in this third group of studies that this thesis is situated. Broad topics in this group include: the connection of the KM concept to corporate culture; the implication of KM for strategic management and human resource management; management-related issues such as motivation for encouraging knowledge sharing, power and control, top management commitment and managing knowledgeable employees; the transfers between tacit and explicit knowledge; and the linkage between KM and organisational effectiveness.

2.4.2 DEFINITIONS AND MODELS OF KM

The fuzzy, loose and flexible nature of the KM concept is demonstrated in the variety of approaches used by authors. A valuable and comprehensive collection of perspectives on knowledge and KM is summarised by Beckman (1999) (see Appendix A and the definitions of KM in Appendix B). Writers define KM differently according to their perspectives and purposes: for example, some focus on operational issues while others emphasise conceptual issues; and some use a mechanistic definition while others prefer humanistic explanations.

A comprehensive approach to defining KM that is useful here is Rowley's (2000) emphasis on *identifying, sharing, creating* and *storing* of knowledge in pursuit of organisational learning:

> "knowledge management is concerned with the exploitation and development of the knowledge assets of an organisation with a view to furthering the organisation's objectives. The knowledge to be managed includes both explicit, documented knowledge, and tacit, subjective knowledge. Management entails all of those processes associated with the identification, sharing and creation of knowledge. This requires systems for the creation and maintenance of knowledge repositories, and to cultivate and facilitate the sharing of knowledge and organisational learning" (p.11).

Of these stages, creation has received considerable focus from certain scholars who explicitly distinguish *knowledge creation* (KC) from KM. Knowledge creation involves continuously replenishing knowledge in order to deal with unresolved situations in an organisation, while KM adds to KC "the systemisation of existing knowledge" (Bajaria, 2000, p.S562). In other words, KM focuses on efficient and systematic use of existing knowledge, whereas KC deals with the acquisition and reformation of new knowledge. Nonaka, a key proponent of many of the concepts behind KC, similarly distinguishes KC from KM. More explicitly, von Krogh, Ichijo and Nonaka (2000) propose that "the creation of knowledge cannot be managed, only enabled" (p.3). From this perspective, the concept of "enabling knowledge creation" is emphasised over "knowledge management".

Nonaka and Konno (1998) emphasise that "knowledge creation is a spiralling process of interaction between explicit and tacit knowledge" (p.42). Nonaka's four-stage SECI model - *Socialisation, Externalisation, Combination* and *Internalisation* - demonstrates this spiral process (Nonaka, 1991). Socialisation involves sharing

tacit knowledge between individuals. Externalisation involves the conversion of tacit to explicit knowledge. New explicit knowledge is created through the integration of explicit knowledge in one field (person) with explicit knowledge from other fields (persons) - the so-called systematisation stage, formerly called the 'combination' stage by Nonaka. Internalisation occurs when explicit organisational knowledge is converted into the individual tacit knowledge as employees continuously engage in 'learning-by-doing'.

A critical assumption of the SECI model is that "human knowledge is created and expanded through social interaction between tacit knowledge and explicit knowledge" (Nonaka & Takeuchi, 1995, p.61). This transfer process happens in real-world operations through creation of a common place (Nonaka calls this "Ba" in Japanese) and implementation of informal programs (such as face-to-face interactions, social networking activities and dialogue) as well as formal programs (such as documentations, learning-by-doing, training sessions: Nonaka & Konno, 1998; Seufert, van Krogh & Bach, 1999). In addition to these programs, Ba may take place in a virtual space such as an intranet or e-mail (Nonaka & Konno, 1998; Newell, Robertson, Scarbrough & Swan, 2002). In Ba, individuals feel free to share, transfer and create tacit and explicit knowledge and personal beliefs, and disseminate values throughout the group (Chourides, Longbottom & Murphy, 2003).

The SECI model focuses on knowledge creation: the fundamental purpose of its four components is pursuit of continuous innovation. However, Li and Gao (2003) argue that for overall organisational effectiveness and performance, knowledge creation by itself is sometimes not efficient for companies facing a turbulent external environment and rapid pace of change. A systematic process of organising and distributing knowledge is also required.

2.4.3 OPERATIONAL DEFINITION

At the core of KM is the fundamental feature of *transferring* information and knowledge from one party to another, whether the parties are individuals or organisational units. If there is no knowledge transfer, KM practices result only in silo operations where knowledge becomes orphaned. Although this process of releasing knowledge may be challenging, organisations practising KM have a

critical need to nurture a workplace culture that enables this (Roth, 2003).

In reflecting this emphasis and synthesising the views above, KM can be defined as a process of collecting and identifying useful information (i.e. knowledge acquisition), enabling employees to retrieve organisational knowledge including orphaned knowledge (i.e. organising knowledge), exploiting and usefully applying knowledge (i.e. knowledge leverage), disseminating it through the whole organisation (i.e. knowledge transfer) and storing the knowledge in a repository (i.e. organisational memory). This operational definition underpins the theoretical model and the research design of this study, with a specific focus on knowledge acquisition and sharing, and organisational memory.

2.5 OBSTACLES TO IMPLEMENTING KM

The literature identifies a number of obstacles to implementing the KM concept in organisations. Impediments that need to be considered in planning KM processes fall into categories concerning the work environment, tacit knowledge and individual competencies.

2.5.1 WORK ENVIRONMENT

Five impediments to KM situated in work environments have been identified. First, *organisational structure* can impede KM practice (Szulanski, 1996; Hendriks, 1999). For example, Palmer (1998) implies that a hierarchical or 'command-and-control' organisational structure is an impediment due to its role rigidity (Grandori & Kogut, 2002). Cameron (2002) suggests structures that support mentoring and inspirational leadership will be more effective.

A second obstacle is the *absence of motivators* such as rewards programs, incentives or other forms of recognition to stimulate employees' interests (Hiebeler, 1996; Szulanski, 1996; Hendriks, 1999; Cameron, 2002). Lack of attractive rewards (Bartol & Srivastava, 2002), or worse still lack of any reward (Grandori & Kogut, 2002), have been shown to be serious impediments.

Third, there may not be *sufficient time* to input or access information (Mayo, 1998; Trussler, 1998; Davenport & Prusak, 2000; Cameron, 2002). This may mean people do not have sufficient time to learn from mistakes, failures or successes (Cameron, 2002).

Fourth, knowledge will not be shared if managers attempt KM practices that ignore values underpinning *interpersonal connection* and *trust*, even if people are connected to information technology networks (Ellis, 2001a).

The fifth obstacle is the existence of *organisational silos* or a dominant culture of inter-departmental (or team) *competition*, especially where scarcity of resources impedes the positive effects of social networking (Goh, 2002).

2.5.2 TACIT KNOWLEDGE

Polanyi (1958), Szulanski (1996) and Haldin-Herrgard (2000) find the unconscious nature of individual knowledge is a major difficulty in sharing tacit knowledge. A similar point on the organisational level is that "most firms do not know what they know" (Birkinshaw, 2001, p.36).

Technology is not often an easy answer to this problem; tacit knowledge is quite difficult to store in a repository (Bollinger & Smith, 2001), too complex and experiential to be electronically encoded (O'Dell & Grayson, 1998). Technological obstacles include both lack of appropriate technology for the storing of tacit knowledge (Parlby, 1998; Zack, 1999a) and a low level of technological sophistication among users (Chong, Holden, Wilhelmij & Schmidt, 2000) of software that is necessarily complex.

2.5.3 INDIVIDUAL ATTITUDES AND COMPETENCIES

An employee's attitude and competencies may impede knowledge sharing and management. Szulanski (1996) and O'Dell and Grayson (1998) find that many employees are ignorant of the importance of sharing and transferring knowledge. Some individuals possess an attitudinal 'unwillingness to share' due to personal insecurity, such as a fear of being seen as ignorant and therefore unfit for job advancement or new career opportunities. This is sometimes described as the notion

that 'knowledge is power' (Szulanski, 1996; Hendriks, 1999; Dunford, 2000; Sveiby, 2000; Grandori & Kogut, 2002). Employees may fear loss of superiority and knowledge ownership after sharing personal knowledge (Szulanski, 1996; Bartol & Srivastava, 2002).

Other employees are simply not interested in sharing (Marshall, 1997; Shaw, 1999). Some may have personality dispositions towards working alone, and do not like to learn from others. These people may believe they are experts who do not need to share (Greengard, 1998b; Trussler, 1998). Other reasons for not wanting to share information include the extra workload or a lack of recognition (Sveiby, 2001), and lack of ability to form interpersonal relationships (Szulanski, 1996). In other cases, employees might feel inhibited from sharing bad experiences, failures or mistakes with others (Davenport, De Long & Beers, 1998; Cameron, 2002), because they fear layoffs or reduced job security, or because it is difficult to share tacit knowledge obtained from painful learning experiences (Tan, 2000). Finally, some employees simply do not know how to share (Szulanski, 1996).

2.5.4 FAILURES IN KNOWLEDGE ACQUISITION

Chapman and Ferfolja (2001) identify seven fatal flaws in the development of mental models during knowledge acquisition.

First, past knowledge applied to present operations may not fit the present-day environment. This knowledge can be termed *"folklore"*. Second, *unreliable and inaccurate sources* might be accepted as valid, affecting the quality of knowledge acquisition.

Third, people may have different *assumptions* about the same knowledge. This leads to misunderstanding during dialogue, possible conflict and termination of learning from one another. Chapman and Ferfolja suggest crystallising the assumptions of organisational knowledge, promoting feedback and encouraging sharing activities.

Fourth, people may interpret *inconsistent or complex circumstances* from different angles; leading to contradictory reactions and coping behaviours.

Ironically, according to Chapman and Ferfolja (2001) inconsistency may even cause people to reach the same conclusions from different forms of wrong reasoning.

Fifth, *organisational structures* may mean transmitting and retrieving knowledge results in it being retained in more powerful parts of the hierarchy or compartmentalised in departments. Consequently, knowledge of practices is only partially transferred, and only to selected people.

Sixth, in the process of knowledge transfer, receivers' *interpretations* of that knowledge can affect their subsequent behaviours. Incongruity amongst different parties' interpretations creates many organisational problems.

Finally, accurate and reliable knowledge may be *ignored* or *deemed incorrect*. This ignorance might result from the personal factors (such as individual diversity, predetermined attitude, or scornfulness) or interpersonal ones (such as untrustworthiness amongst people or mutual antagonism).

2.6 KNOWLEDGE ACQUISITION

The ability to learn is a prerequisite for successful organisational knowledge acquisition. This section considers the nature of and relationship between three related concepts in this area: learning, absorptive capacity and knowledge acquisition.

2.6.1 LEARNING

2.6.1.1 Conditions for Learning

Mellander (2001) claims that "no knowledge management initiative can exist or succeed in any environment without first providing the right conditions for learning" (p.165). While some practitioners argue that learning needs to be nurtured over a long period of time, Mellander considers that under the right conditions learning can happen efficiently. In these, learning opportunities occur repeatedly and learners continuously cope with new challenges and situations, reflecting on experience and building knowledge from this process.

Four conditions for learning can be proposed from Fiol and Lyle's (1985) list of contextual variables affecting the 'learning curve': the organisation's *cultural values* about learning; the organisation's *strategic view* of the scope of organisational learning; *flexibility and decentralisation* in the organisational structure, facilitating learning and reflection; and a moderately *stable yet dynamic* environment.

2.6.1.2 Single-loop, Double-loop and Deutero-loop Learning

Argyis and Schon (1978) differentiate three types of learning process. In the *single-loop learning*, no adjustment of existing competencies and operational methods takes place since it assumes optimisation of competencies and methods already exists. The learning type may be adaptive while, on the other hand, double- and deutero- loop learning are generative.

A *'thinking'* phase is added in *double-* and *deutero-loop* learning. According to Wilson (2000) "improving our ability to think is the cornerstone of KM, and the centrepiece of all knowledge transfer practices" (p.377). Continuous improvement is the process of double-loop learning by removing defective methods and improving insufficient competencies. *Deutero-loop* learning is based on changing those methods which are obsolete through individual *reflection* on underlying mental models. The reflection component reinitiates the learning cycle, leading to new levels of thinking and creation of knowledge, overstripping the previous learning phase (Spinello, 2000). Deutero-loop learning generates new discoveries and knowledge (Eskildsen, Dahlgaard & Norgaard, 1999; Contu, Grey & Ortenblad, 2003).

2.6.1.3 Individual Learning vs Sharing Knowledge

To "learn" means to "digest", to "absorb", and to "apply" (Senge, 1998). Learning and sharing can be viewed as two sides of the same coin. Roth (2003) suggests that "If we want people in our organisations to share what they have learned, it would be wise to create the conditions where sharing results in personal benefit to both parties" (p.34). Individual learning therefore involves not only learning from past experience or the present moment but also sharing them. McDermott (1999) describes the process of 'knowledge sharing' as enabling sharers to guide sharees through sharers' thinking and/or using their insights to assist

sharees examine their own situations.

Some authors (e.g. Yelle, 1979) point to the positive value of lessons from past experience in managing current organisational operations. However, as Huber (1991) claims, "learning does not always increase effectiveness or potential effectiveness" (p.89). Huber argues that learning from past experience sometimes may unintentionally lead to repeating organisational failures. Similarly, Baum and Ingram (1988) consider that learning from ambiguous and sparse organisational past experiences can cause organisational failure: they argue that it is quite difficult to learn from past experience due to its tacit and limited features, and because the current external environment may be changed.

2.6.2 ABSORPTIVE CAPACITY

Learning occurs best when 'absorptive capacity' exists in an organisation. Cohen and Levinthal (1990) define absorptive capacity as "an ability to recognise the value of new information, assimilate it, and apply it to commercial ends" (p.128). Ordónez de Pablo (2002) states "absorptive capacity is a key capability for knowledge acquisition. This capability may be nurtured through previous OL [organisational learning] process" (p.54). Absorptive capacity involves removing rigidities in existing individual memories, in transferring individual knowledge through the organisation, and in the creation of new knowledge through sharing and interaction with the external environment (Cohen & Levinthal, 1990). Dixon (2002) emphasises that for a company in global operations, lack of absorptive capacity can considerably impede effectiveness and efficiency of knowledge transfer between countries.

From this author's viewpoint, absorptive capacity is the most crucial determinant of success in applying past experience to the present at the individual level. A person who does not have extensive work experience in the hotel industry does not possess absorptive capacity: how can such a person capture the underlying rationale and meanings of past experiences and adapt them to new environments? As Berends, Boersma and Weggeman (2003) put it "knowledge has to become tailored to and situated in the practices in which it will be applied" (p.1046). Two empirical studies support this: Szulanski (1996) finds that insufficient absorptive

capacity is one of the main impediments to knowledge transferring within companies, and Tsai (2001) finds that absorptive capacity significantly influences a firm's level of continuous innovation and overall business performance.

2.6.3 WAYS OF KNOWLEDGE ACQUISITION

Knowledge acquisition is the organisational process whereby various sources of information are integrated. Knowledge can be acquired from three broad sources, *individuals' experience*, *operational systems*, and the *external environment*. First, according to Argote et al. (1990) and Argote (1999), knowledge may result from individuals' knowledge acquisition through a 'learning by doing' approach.

Second, knowledge could be obtained from a company's operations through interactions with its customers, suppliers and staff, or through data on its financial performance (Darroch, 2003).

Third, according to Akgun, Lynn and Byrne (2003), knowledge acquisition can be through "environment scanning and transferring that data to the organisation to sense the signals of environmental changes" (p.845). This involves gathering from the external environment knowledge to allow managers to better understand their markets and to evaluate potential strategies to guide future actions. Jones et al. (2003) identify some approaches to acquiring such knowledge: attending trade shows and conferences, sending employees to visit suppliers and customers and strategic alliance partners. Site inspection of rival firms is another option. These activities aim to more accurately understand competitors' actions and the industry as a whole.

According to Schulz (2003), *knowledge acquisition* can be seen as knowledge *inflow* from entities such as a person, database, written materials, prototypes and the like, while *knowledge transfer* can be seen as knowledge *outflow* from one entity to another. Schulz focuses on knowledge inflow and differentiates it into *horizontal* and *vertical* dimensions. In the former, knowledge flows amongst peers, co-workers and lateral units while in the latter, knowledge flows upwards and downwards between superiors and subordinates or supervised units.

Knowledge acquisition will be guided by an organisation's *absorptive capacity* (Inkpen, 2000). For example, Barrick and Spilker (2003) propose that decision makers should be capable of segregating relevant and irrelevant information during information search.

2.7 KNOWLEDGE SHARING

2.7.1 OVERVIEW

Bartol and Srivastava (2002) define knowledge sharing as the action in which employees diffuse relevant information to others across the organisation. According to Bock and Kim (2002), knowledge sharing has been considered the most important part of KM. The ultimate goal of sharing employees' knowledge is its transfer to organisational assets and resources (Lev, 2000; Dawson, 2001). As Inkpen (1996) puts it, "unless individual knowledge is shared throughout an organisation, the knowledge will have a limited impact on organisational effect" (p.124).

Stovel and Bontis (2002) have shown that knowledge sharing among employees increases job performance. Baum and Ingram (1988), in their extensive investigation of decades of empirical research on sharing practices in Manhattan hotels, conclude that the diffusion of experience from their own and others' hotels within the same chain has a significant beneficial effect on daily operations. This willingness to share was a norm in the Manhattan hotel industry.

Sharing activities have to be voluntary and cannot be forced (Käser & Miles, 2002). Dixon (2002) also suggests that sharing should be mutual in organisations.

Tacit knowledge is an important part of knowledge sharing. Polanyi (1966) proposes that "we know far more than we can ever tell" (p.4), implying that organisations need to assist employees to become conscious of tacit knowledge. "Knowledge sharing is more than telling hoarders to 'play nice'. It is about capturing the tacit knowledge located in people's heads" (Hickins, 2000, p.101). Because tacit knowledge is inaccessible to consciousness, and because of its

abstraction and disembodiment, one issue to be considered is how it can be shared with others. For Bartol and Srivastava (2002), communication by way of analogies, metaphors and stories is a useful way of facilitating this.

2.7.2 SYNERGY EFFECTS THROUGH SHARING

Sharing of knowledge results in *synergy* (Mrinalini & Nath, 2000), as it increases in value with use. Social capital is created as those who *share* knowledge refine their knowledge by dialogue and those who *receive* knowledge learn. Bornemann and Sammer (2003) put it this way:

> "knowledge as a resource of value creation,..., allows for exceptional marginal rates of productivity. This is due to the major attribute of knowledge: appreciating value with continuing use and sharing of knowledge instead of depreciating value of tangible products or natural resources" (p.21).

This notion is related to Sveiby's proposition (2001) that knowledge interflow amongst individuals enables them to enhance their competency and mutually generate new knowledge. This synergistic effect also applies to teams.

2.7.3 KNOWLEDGE HOARDING

Wah (2000a) claims that a major obstacle to KM is the propensity of people to *hoard knowledge*. Hoarding knowledge does seem to be natural, particularly under conditions of economic competition where "knowledge is power". For example, sales staff may face quota pressures and strong competition with each other.

Partial transfer of knowledge may be a more common kind of hoarding, where sharers share selected circumstances of a case rather than all of it (Goh, 2002). Fisher and Fisher (1998) give the example of people hoarding incomplete ideas and personal mistakes. Ellis (2001b) indicates that "salespeople tend not to want to share hot selling tips, but they do want documentation of product solutions. The thing they like is to share their success" (p.36). No matter what individuals are apt to misunderstand, forget, filter, ignore or/and fail to pass on, nor whether this kind of withholding behaviour is unintentional or deliberate, organisational performance can be affected. Incomplete transfer of knowledge incurs 'knowledge depreciation' or organisational forgetting (Argote, 1999).

Removing hoarding behaviour therefore seems to be difficult. Inspiring

individuals to share becomes crucial, and organisations have to create a healthy climate based on collaboration, cooperation and trust.

2.7.4 KNOWLEDGE DEPRECIATION

Argote (1999) describes *knowledge depreciation* as loss of value, in analogy to currency depreciation. This occurs in at least five ways: when employees quit a job without the transfer of their knowledge; when existing organisational knowledge becomes obsolete (e.g., because the company temporarily loses competitiveness); when new creative products and services are rendered sub-standard by old know-how or unprofitable products; when knowledge is incompletely or selectively transferred; and when organisational knowledge becomes difficult to access. Depreciation has negative impacts on organisational performance, such as decreased productivity, decay of customer satisfaction, unmet delivery commitments, inappropriate managerial decision-making, and mistaken strategic behaviour (Argote, 1999).

Turnover can exacerbate knowledge depreciation or organisational forgetting (Argote et al., 1990; Argote, 1999), as knowledge is lost "through individual forgetting, misplaced manuals, personnel turnover, and the like" (Darr, Argote & Epple, 1995, p.1753). Darr et al. (1995) investigated the extent to which knowledge depreciation occurred in 36 pizza stores. They found that the higher the employee turnover rate, the greater the decrease of production and the greater the rate of knowledge depreciation. In addition, stores with less technology had more rapid rate of depreciation. Similarly Dyer and Nobeoka (2000) investigated the creation of Toyota's US knowledge sharing networks and concluded that knowledge in the networks depreciated over time.

2.8 ORGANISATIONAL MEMORY

2.8.1 THE CONCEPT OF ORGANISATIONAL MEMORY

An organisation itself does not remember things; 'organisational memory' is a metaphor describing how information and knowledge are retained by an organisation's members or physical records (Walsh & Ungson, 1991; Anand, Manz

& Glick, 1998). Davenport (1997) argues that KM will not succeed unless some staff are responsible for collecting and compiling knowledge, planning knowledge networks, and establishing and organising knowledge technological repositories.

Organisational memory is defined by Walsh and Ungson (1991) as

"stored information from an organisation's history that can be brought to bear on present decision. This information is stored as a consequence of implementing decisions to which they refer, by individual recollections, and through shared interpretations" (p.61).

Organisational memory is a significant aspect of KM because it holds collective competencies, knowledge and experiences as resources (Walsh & Ungson, 1991). For example, past success and failure stories may prevent mistakes from recurring. Ultimately, as Beckett (2000) says, with a good memory system "the longer an organisation exists, the more these will be associated with the organisation rather than the particular people in it" (p.311).

Organisational memories have two sides: transfer into memory as knowledge is modified and created; and transfer out of memory during retrieval, as organisational members apply it in their work (Argote & Ingram, 2000).

Argote's (1999) research on organisational learning shows knowledge is retained in three different memory systems: *individual memory*, an organisation's *information technologies* and tools, and its *structures and routines*. When high levels of employee turnover exist and individual knowledge is not captured, all three of these suffer: how to place individual knowledge into collectively accessible memory systems is a key issue for human resource managers.

An interesting example of such a system in the hotel industry is the Marriott chain's "codification system" that stores employees' knowledge of day-to-day operations and standard operation procedures to provide consistent customer services (Gupta & Govindarajan, 2000). This is accompanied by a reward system for those who share, create and mobilise new knowledge relevant to the business. A similar practice in the Ritz Carlton chain reinforces customer loyalty by recording guests' special interests in the first visit and providing personalised treatment based on records thereafter (Davenport, Harris & Kohli, 2001).

Zollo and Winter (2002) looked at the codification of knowledge into organisational memory via written documents and information systems. Their extensive review of the literature showed that codification can lead to effective diffusion and articulation of organisational knowledge, including individuals' prior experience, internal routines, new operating routines and other operational knowledge.

2.8.2 THE STRUCTURE OF ORGANISATIONAL MEMORY

Three schemes for understanding the structure of organisational memory have been reported. First, Anderson (1983) proposes that memory can be divided into *procedural* and *declarative* storage systems. In organisations, *procedural memory* involves knowledge related to tactical skills and routines, operational procedures and the content of job tasks. *Declarative memory* stores facts, propositions and principles underlying actions and activities, both conscious and sub-conscious. With respect to their interrelationship in one study, "declarative memory appeared to guide the creative deployment of procedural memory" (Moorman & Miner, 1998, p.712).

Second, Walsh and Ungson (1991) identify six organisational 'retention bins': *individuals, culture, transformation, structure, workplace ecology,* and *external archives.* The *individual* bin is composed of individuals' memories, cause maps, assumptions, values and articulated belief. The *culture* bin is embedded in a shared framework of symbols, corporate stories, sagas and 'grapevines'. The *transformation* bin comprises procedures, rules and formalised systems. The *structure* bin contains organisational implications for individual role behaviour and its link with the environment. The *workplace ecology* bin includes the physical setting, layout and interior office design. The *archives* bin includes all information and knowledge being gathered from competitors, government bodies, regulation, financial services firms and business historians (Walsh & Ungson, 1991, p.63-67). As well, *external knowledge* has been considered to form a 'bin' of knowledge related to suppliers, distributors and end-users (Anand et al., 1998).

A third scheme is Johnson and Paper's (1998) division of organisational

memory into *organic* and *constructed* memory. *Organic* memory contains individual memory, organisational culture, standard operation procedures, "expected role behaviours and other environmental factors" (Johnson & Paper, 1998, p.505). *Constructed* memory comprises "knowledge stored in facilities deliberately, designed and maintained for the purpose of organisational memory. Such facilities include electronic databases, transaction records and history archives" (p.505).

These three schemes overlap to some extent but provide useful ways of classifying the contents and mechanisms of organisational memory.

2.8.3 BUILDING UP ORGANISATIONAL MEMORY

Organisational memory is based on dispersed and fragmented individual knowledge from throughout the organisation. The challenge for management is to maximise synthesis and integration of this knowledge, and to effectively and efficiently replace obsolete memory with new memory (Wijnhoven, 1999). Two approaches can be used to build a well-structured organisational memory: establishing *knowledge repositories*, and *mapping* where organisational knowledge is located.

2.8.3.1 Knowledge Repositories

A point made many times in this review is that knowledge sharing requires converting individual knowledge into organisational memory (Cross & Baird, 2000). This is often seen to require IT. However, as Hickins (2000) indicates "[p]eople are loathe to spend time adding content to a knowledge repository. And everyone knows that a database is only as good as the information it contains" (p.102). Cross and Baird go so far as to suggest staff facilitating collective learning and sharing should be different to those facilitating storage and recording.

The challenge of finding the right ways to get people to store knowledge is partly met by choosing the right technology from the many available (Table 2.2). Many studies show that repositories need to be accessible, traceable, retrievable and useable, regardless of any spatio-temporal discrepancy that is created (e.g., Johnson & Paper, 1998; Becker, 1999; Martin, 2000; Rowley, 2000; Seng et al., 2002).

TABLE 2.2 Technologies for Organisational Memory

Technologies	Information Source
❖ Document Management (memos, reports, presentations, articles)	Benson (1997)
❖ Electronic Bulletin Boards	Benson (1997); Olivera (2000)
❖ Electronic Document Management	Amami & Beghini (2000)
❖ Expert Systems	Liebowitz & Beckman (1998)
❖ GrapeVINE	Davenport & Prusak (2000)
❖ Groupware	Sena & Shani (1999)
❖ Integrated Performance Support Systems	Liebowitz & Beckman (1998)
❖ Lotus Notes	Davenport & Prusak (2000)
❖ Knowledge-based Systems	Sena & Shani (1999)
❖ Knowledge Transformations	Liebowitz & Beckman (1998)
❖ On-line Knowledge Repository	Liebowitz & Beckman (1998)
❖ Project Management	Sena & Shani (1999)
❖ Sequent Corporate Electronic Library	Davenport & Prusak (2000)
❖ Skills Inventory Systems	Sena & Shani (1999)
❖ Video Conferencing	Benson (1997)
❖ Yellow Pages for Knowledge	Sena & Shani (1999)

2.8.3.2 Knowledge Map

The structure of knowledge in organisations needs to be regularly examined and identified, and a *knowledge map* can assist this (Howard, 1989; Wiig, 2000). A map "demonstrates where the pieces of the information puzzle fit together and helps explain the ultimate goal of sharing information and knowledge resources" (Abell & Oxbrow 1999, p.4-14). It shows what organisational knowledge has been codified and disseminated, what individual knowledge still resides in the individual, and what external and internal knowledge essential to organisational performance needs to be acquired in the near future (Allee, 1997b; Ruggles, 1998). A map aids employees in gathering the right knowledge and reduces overlaps in individual knowledge and information overload (Greengard, 1998c).

2.9 ORGANISATIONAL CULTURE AND KM

Knowledge management is strongly based on knowledge sharing, and a critical factor in this is likely to be a conducive organisational culture. This section introduces the basic concepts of organisational culture and supportive climate, and looks at how such a climate can be created though various means: a collaborative rather than competitive atmosphere, a trusting and trustworthy work environment, top management commitment, leadership roles of mentoring and facilitating, a

multi-facetted learning culture and appropriate motivation and rewards.

2.9.1 FUNDAMENTAL CONCEPTS

Schein, a major authority on culture, (1986, p.30-31) describes its role this way:

> "Culture is the pattern of basic assumptions that the group has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration, and that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to these problems."

In other words, culture involves assumptions held by organisations in the belief they help solve external and internal problems and decrease anxiety arising from uncertainty. Culture, according to Schein, is ultimately about the control of behaviour, in particular setting norms for behaviours, values and beliefs that leaders wish to encourage in their subordinates.

Organisational culture is described by Nicholls (1984/85), Edwards (1988) and Robbins and Barnwell (1994) as shared values, beliefs or perceptions held by employees within an organisation or organisational unit. These are shared by a significant portion of members but largely taken for granted by them. Culture is socially learned and transmitted by members, and can be found in any fairly stable social unit, of any size, as long as it has a reasonable history. In summary, culture provides rules for behaviour in organisations.

Organisational culture may either advantage or disadvantage an organisation. An organisational culture may enable employees to cooperate in order to accomplish their assigned tasks and objectives, but when it is out of step with the wider cultural environment of its employees, it becomes an obstacle to working efficiently and effectively. Many studies show that an effective organisational culture is a key influence on an organisation's ability to survive and succeed in the long run (e.g. Thomas, 1985; Morris, 1992; Schneider, Gunnarson & Niles-Jolly, 1994).

2.9.2 A SUPPORTIVE CORPORATE CULTURE

Corporate culture is a key consideration in the implementation of KM. While in some circumstances companies have been able to shift corporate culture to

accommodate KM (Bailey & Clarke, 2001), more often they must develop KM plans to fit their existing corporate culture (McDermott & O'Dell, 2001).

What does an organisational culture need to be like in order to nurture KM practices? The ideal culture for KM is one that supports staff to constantly and continuously pursue sharing, learning and knowing to enhance job performance, to propagate what they know throughout the organisation, and to marshal it for organisational gain. Gupta, Iyer and Aronson (2000a) describe such a culture as containing openness and incentives for successfully facilitating integration of individual competencies (including skills, knowledge and experiences) into organisational knowledge through learning, knowledge creating and sharing. Ideally, "people would share ideas and insights because they see it as natural, rather than something they are forced to do. They would expect it of each other and assume that sharing ideas is the right thing to do" (McDermott & O'Dell, 2001, p.77).

2.9.2.1 A 'Collaborative, not Competitive' Atmosphere

Liedtka and Rosenblum (1996) propose that cultures should enable organisations to communicate, learn and cooperate across the 'silos' of organisational structures - to "link and leverage across entrepreneurial units" (p.143). A 'collaborative, not competitive' culture is created in the workplace, based on 'value introjections'. These are a key element of social capital, because, according to Portes and Sensenbrenner (1993, p.1323) and Tsai and Ghoshal (1998, p.465), they "prompt individuals to behave in ways other than naked greed". A number of studies focus on value introjections (Ruggles, 1998; Cameron, 2002; Goh, 2002; Sveiby & Simons, 2002; Droege & Hoobler, 2003).

2.9.2.2 A Trusting and Trustworthy Work Environment

Creating a trusting and trustworthy work environment is extremely crucial according to many authors (e.g. Shaw, 1999; Soliman & Spooner, 2000; Goh, 2002; Rowley, 2002; Sveiby & Simons, 2002; Wagner, 2003). Davenport and Prusak (2000, p.34-35) indicate that "trust must be visible ... trust must be ubiquitous ... trustworthiness must start at the top". According to Tsai (2000),

> "trust is an attribute of a relationship and trustworthiness is an attribute of an individual actor. ... an actor's trustworthiness can be measured by its locational properties in a network of trusting relationships" (p.931).

Without the existence of trust, nobody would be comfortable to sharing and transferring his or her tacit and explicit knowledge. The level of trust supporting knowledge sharing needs to exist in the sharing relationship, even in organizational hierarchy. An organization creates a trusting workplace, where individuals collectively learn from and share with their colleagues through teamwork, discussion and job rotation.

Sveiby and Simmons (2002) claim the development of information systems and technologies would not be successful without individual willingness to share. Their finding demonstrates that two major impediments to the sharing are the "internal culture of resistance to sharing" and "a culture of hoarding knowledge" (Sveiby & Simmons, 2002, p. 421). They also reveal that a great deal of the literature shows how the components of 'collaboration' and 'trust' are necessary to be incorporated into the organisational culture for successful KM practices. Sveiby and Simmons focus this culture on aspects of "the values, beliefs and assumptions that influence the behaviours and the willingness to share knowledge" (p. 421).

2.9.2.3 Top Management Commitment

Commitment is "an attitudinal consequence of the psychological contract" (Hislop, 2003, p.189), and may be to the organisation itself or an industry as a whole. The positive and negative aspects of commitment will affect individuals' loyalty, willingness to share, motivation and overall job performance. Hislop (2003) has shown that strong individual commitment to an organisation positively contributes to organisational performance in terms of reduced turnover and greater willingness for discretionary sharing.

Hiebeler (1996) describes a common problem in which top management do not commit to development of a knowledge sharing climate. Many studies show that managers initially tend to convince subordinates to create new ideas but eventually fail to put them into action (e.g. Pan & Scarbrough, 1998; Mrinalini & Nath, 2000; Roth & Kleiner, 2000; Rowley, 2002; Chourides et al., 2003). Managers at all levels of the hierarchy must join with front line staff in terms of supporting KM practices.

Goh (2002) proposes that when superiors commit to sharing their own knowledge, they should coach their subordinates to do the same. Similarly, Büchel and Raub (2002), point to the role of explicit management support, and Bontis (2003) emphasises the influence of managerial behaviour on employees' behaviour. If knowledge hoarding exists in an organisation, managers should look at their own behaviour.

2.9.2.4 Leadership Roles

The traditional view of management is that organisational members act as instruments of their superiors (Roth, 2003). However, this perspective is no longer seen to secure long-term success and managers are increasingly required to stimulate subordinates to voluntarily transfer talent and experience into organisational assets. This involves leadership rather than management, and facilitating and coaching roles must receive more attention (Roth, 2003). The studies of Goh (2002) and Chourides et al. (2003) show that a coaching leadership role can positively facilitate KM.

2.9.2.5 Multi-Facetted Culture

A number of points from the literature describe an ideal, if multi-faceted, work environment that should be fostered in KM. This would have:

➢ A focus on *learning*. Employees would be encouraged to acquire knowledge and skills and to show creativity, exploration, discovery and intentional risk-taking (McGill, Slocum & Lei, 1992; Simatupang & White, 1998). This would help employees deal flexibly with an uncertain work environment (Snowden, 2002).

➢ A pervasive climate favouring *sharing* throughout the organisation and discouraging hoarding (Davenport et al., 1998; Chourides et al., 2003). This may be based on a social obligation to share (Greengard, 1998b, p.91).

➢ An environment where employees feel free to *share failure and mistakes*, a so-called "altruistic" culture (Davenport & Prusak, 2000, p.33).

➢ *Mentoring programs,* enabling senior members to assist juniors. Seniors need to be motivated to share knowledge and experience with juniors and newcomers (von Krogh, 1998).

➢ A supportive culture *across* an organisation, rather than in a specific

department (Sawhney & Prandelli, 2000; Bollinger & Smith, 2001).

➤ *Accountability* for sharing within a team (Tauhert, 1998).

➤ *Equity* of treatment of all employees (Goh, 2002).

➤ A focus on *innovation*, problem-seeking and problem-solving (Goh, 2002).

➤ Opportunity for *spontaneous sharing*. "Sharing is a voluntary activity that increases where it is modelled, appreciated and valued. Management has a very critical role in creating that norm" (Dixon, 2002, p.40). Spontaneous sharing, whether formal or informal will support a sharing culture.

However, while many authors describe elements of an ideal corporate culture for KM, in practice changing corporate culture is a complex and long-term process and KM programs often have to work with less supportive cultures.

2.9.3 MOTIVATION

Knowledge sharing requires interpersonal connection and trust if people are to become comfortable sharing tacit and explicit knowledge; information technology is not enough (Ellis, 2001a). This points to the role of organisational culture and climate.

However, motivation is not just an issue of climate. Salopek (2000) suggests that "if we want people in our organisations to share what they have been learning, we would be wise to create the conditions in which sharing results is of personal benefit" (p.63). This includes both intrinsic and extrinsic rewards. Allee (1997b) applies Maslow's theory of a hierarchy of needs, and considers knowledge sharing could be motivated by a need for 'belongingness'. Economic incentives such as cash bonuses, plaques, trips and other and rewards (Smith, 2001; Greengard, 1998b) also have a place, though supervisors need to be aware of individual differences in employees' needs and choose incentives accordingly. Lesser and Prusak (2001) provide an interesting example of an organisation offering bonuses to *departing* employees for sharing their working knowledge. Davenport and Völpel (2001) offer the concept of "knowledge markets" to describe organisations where individuals exchange knowledge and other valuables such as money, respect, promotion, power or control.

However, employees should be educated not to see such rewards as the sole benefits of sharing knowledge. Receiving shared knowledge from others in an exchange, leading to knowledge enrichment or refinement, should also be a motivation, with outcomes multiplied beneficially among all parties (Allee, 1997a, 1999a; Lyon, 1997; Coleman, 1999).

Although competition has been described above as an impediment to knowledge sharing, Tsai (2002) considers the positive side of inter-unit competition in promoting alliances. While "the competitive aspect refers to the use of shared knowledge to make private gains in an attempt to outperform the partners" (p.180), Tsai notes the development of organisational-coordination rules, in either formal structures or informal horizontal networks, which enable different units within an organisation to articulate with each other and enhance knowledge sharing. Nalebuff and Brandenburger (1996) use term 'co-opetition', a combination of 'cooperation' and 'competition'. An obvious example in a hotel where co-opetition may be beneficial is where multiple restaurant outlets operate.

As noted above, motivating staff to share knowledge is a key aspect of organisational knowledge sharing. *Visible rewards* are a vital part of this (Goh, 2002) - financial and other extrinsic sources of motivation need to be considered by managers - but *intrinsic rewards* such as achievement, recognition, appreciation, future advancement and the work itself may be at least as important (Despres & Hiltrop, 1995). Indeed, Bender and Fish (2000) claim non-monetary rewards are much more important than money. Measurement and reward systems for KM should therefore be changed "from objective and rational, to subjective and 'soft' performance" (Despres & Hiltrop, 1995, p.20).

Bock and Kim (2002) describe three *factors affecting motivation* to share: *improved relationships*, individuals' beliefs about their contribution (i.e. increased *self-efficacy* and confidence from sharing), and *rewards* of economic or social exchange. Economic exchange includes a range of monetary benefits (e.g. quid pro quo, bonus, gainsharing, incentive, etc.), promotion, and education opportunities. Social exchange includes employee involvement, personal obligation, praise, public recognition, feeling of appreciation, and establishment of trust and trustworthiness.

An important psychological reward (Michael, 1997; McDermott & O'Dell, 2001) is *employee recognition* (McNerney, 1998; Bontis, 2003; Chourides et al., 2003). Employees who perform well on knowledge sharing can be publicly recognised through corporate newsletters, awards such as 'Communicator of the Year', intranet messages and memos.

As well, the *perceived fairness* of rewards amongst employees is especially important, whether at the level of individual, team or work-units (Bartol & Srivastava, 2002). At the same time, employees have different needs and different stimuli are needed for different people (Larsen, Bukh & Mouritsen, 1999). Finding a set of rewards that embodies a *core set of values* may be very difficult and time-consuming. McDemott and O'Dell (2001) claim

> "core values typically embody what people really consider important, what they think is key to getting ahead and 'playing the game' of life in the organisation, even when they don't care about their organisation's underlying values. Building on one of these core values is key to creating a culture that supports sharing knowledge" (p.82).

Bontis (2003) points out that human resource managers should *regularly gauge* whether motivation programs are stimulating employees to gather and share knowledge. If they are not appropriate, alternatives need to be found.

2.10 SOCIAL INTERACTION

Social interactions are part of organisational culture, involving interconnection of individuals to pursue and accomplish organisational goals through means such as dialogue, chat, networking, organised social events, informal gatherings, mentoring and collective reflection. Such social channels can accelerate KM, and could be especially efficacious in sharing tacit knowledge (Allee, 2001e; Lang, 2001; Chua, 2002; Kakabadse et al., 2003).

This section examines four forms of social interaction: *communities of practice, communication channels, social networking* and *dialogue*. Each can be developed to support knowledge sharing and management.

2.10.1 SOCIAL INTERACTION

Individuals could more easily acquire knowledge if trust and trustworthiness are enhanced through personal contacts, greater interrelationship and networking (Lesser & Prusak, 2000). However, creating trust through facilitating social interaction is a long-term strategy that requires managers to understand human behaviour and to change corporate culture, and faces obstacles in organisations where cultures value individual achievement, competitiveness and hierarchy rather than sharing and collective achievement. If these problems can be overcome, networking, mentorship and face-to-face interactions will help sharing of knowledge (Haldin-Herrgard, 2000).

2.10.1.1 Social Interaction as a Facilitator

Social interaction facilitates dissemination of goals and values throughout an organisation (Michael, 1997; Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). Bhatt (1998) found that social interactions such as informal meetings, get-togethers and face-to-face interactions enhance organisational performance through increasing satisfaction of customers' expectations.

Social interaction particularly facilitates sharing tacit knowledge. Haldin-Herrgard (2000) points out that tacit knowledge cannot be delivered through lectures, internal newsletters or other documentation, or databases.

In a significant study, Tsai (2002) examined the influence of social interaction on knowledge sharing in a large multi-unit PVC manufacturing company. He found informal horizontal networks based on social interaction and decentralisation rather than locus of power and control or centralisation, significantly improved knowledge sharing and created a climate of trust and collaboration.

2.10.1.2 Dimensions of Social Interaction

Nahapiet and Ghoshal (1998) and Chua (2002) identify three important dimensions of social interaction that influence knowledge sharing: *structural, relational* and *cognitive.*

The *structural* dimension refers to organisational mechanisms connecting

members through structures and systems. These include physical sharing (e.g. workshops, informal discussion forums, meetings, networking, an opportunity for group members to brainstorm, etc.) and electronic sharing (e.g. on-line chats, e-mails, intranet, etc.).

The *relational* dimension refers to interpersonal relationships and has three aspects: *care*, *norms of cooperation* and a sense of *identification*. The extent to which people *care* for others influences the level of trust, empathy, assistance to others and tolerance of judgement and mistakes. Liedtka (1999) contends that communities of practice "are built on an underlying ethic of care" (p.5). *Norms of cooperation* among organisational members (such as openness of sharing knowledge, teamworks, employee commitment, motivation programs for sharing and creating knowledge) affect social interactions. A sense of *identification* with a group is "the degree to which individuals see themselves as one with a group of people" (Chua, 2002, p.377).

The *cognitive* dimension refers to resources for sharing representations and meanings among individuals, comprising a shared language, coding system and narratives such as myths and stories. These help interpret, judge and evaluate sources of knowledge, and enrich the capacity of capturing-sharing-applying-integrating activities.

2.10.2 COMMUNITIES OF PRACTICE

Nurturing *communities of practice* is an important form of developing social interaction (Lave & Wenger, 1991; Wagner, 2003). Nonaka (1994) and Carlile (2002) recommend that mutual and reciprocal understanding be created within communities of practice in which individuals feel supported to discuss differences and share knowledge across boundaries.

Lave and Wenger (1991) define a community of practice as

"an active system about which participants share understandings concerning what they are doing and what that means in their lives and for their community. Thus, they are united in both action and in the meaning that that action has, both for themselves and for the larger collective" (p. 98).

According to McShane and Travaglione (2003), they are "informal groups bound together by shared expertise and passion for a particular activity or interest" (p.21). They facilitate organisational members' involvement in knowledge sharing, collective learning, problem solving and decision-making (Arora, 2002; Ardchvili, Page & Wentling, 2003). Communities of practice have been described as a crucial component of knowledge sharing and organisational learning (DiBella & Nevis, 1988; Newell et al., 2002).

Individuals in communities identify their own interests and values, compare these with others and then interact for their own sakes (Käser & Miles, 2002). A community is therefore a non-routine, personal, self-efficacious and unstructured soft-system (Bartol & Srivastava, 2002).

An important theoretical aspect of a community of practice is the view that learning takes place in social interaction rather than solely in individuals' minds; people need to be involved in 'learning-by-doing together', mutual enriching their competencies.

Zárraga and Garcóa-Falcón (2003) identify three characteristics of communities of practice: multi-faceted *dialogue* in work teams; a common organisational *language*; and individual *autonomy* in daily routines. They describe two important determinants of sharing in such communities: *care*, which consists of mutual trust, active empathy, access to help and lenient judgements, and *courage*.

2.10.3 EFFECTIVE COMMUNICATION CHANNELS

As noted above, transferring individual knowledge to organisational knowledge is a crucial task for organisations, and regular *communication* is identified by Tushman (1977) and Darr et al. (1995) as a key aspect of knowledge sharing: a company must both open up communication channels and provide resources to enable employees to use them (Stohr & Zhao, 1998). Efficient communication underpins the removal of obstacles to knowledge sharing and the acquisition of individual tacit knowledge.

At a general level, Michael (1997) claims that effective communication

involves: firstly, delivering useable messages to people, secondly, adding relevant stories to the messages helping people to understand them, thirdly, specifying and clarifying those given resources, and lastly, examining relevant factors in internal operations and the external environment which might affect job functions and work activities.

As noted before, Goh (2002) emphasises the value of cross-functional teams and horizontal communication flows in overcoming organisational 'silos'.

2.10.4 SOCIAL NETWORKING

Organisational effectiveness relies on social networks (Argote & Ingram 2000) as the contribution of individuals is greatly improved by interactions within a social network. According to Jacob and Ebrahimpur (2001),

> "a social network consists of a series of direct and indirect ties from one actor to a collective of others, whether the central actor is an individual person or an aggregation of individuals" (p.76).

Seufert et al. (1999) contend that "networks are structural as well as cultural" (p.182), and define a social network as

> "a specific set of linkages among a defined set of actors, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behaviour of the actors involved".

Palmer (1998) argues that much of the literature on knowledge networking emphasises the technology and systems, and that "this is tantamount to investing up a blind alley unless we make the same level of investment in our ability to openly relate" (Palmer, p.306). Palmer suggests the interconnection of people and processes will enrich people's capabilities for sharing.

Organisations establish networks by developing social opportunities and engendering a supportive culture through loyalty and trust (Bian, 1997; Burt, 1997; Snell, 1999; Seibert et al., 2001). Podolny and Page (1998) contend that networks perform multiple functions. They enable participating companies to learn and acquire new skills and knowledge through transfer of employee owned knowledge; provide legitimacy through affiliation; enhance economic performance through anticipating environmental changes and facilitating coordination during changes;

and help manage resource dependencies by "alleviat[ing] sources of external constraint or uncertainty by strengthening their relationship with the particular sources of dependence" (Podolny & Page, 1998, p.72). Networks are thus an important source of social interaction.

Structural holes in networks occur when people are not connected together (Burt, 1997; Seibert et al., 2001). According to Burt's (1997) structural holes theory, when individuals span a hole they gain access to resources (such as knowledge and insights of other persons) on both sides of the hole.

A range of formal and informal opportunities can help enable employees to learn faster through sharing insights and experiences across a network. Wiig (1999a) describes *Knowledge Cafés*, where employees gather "to discuss implications of some topic that affects them and their organisation" (p.6). A second opportunity is for team members to have *regular meetings* to exchange their competencies (Zielinski, 2000). *Mentoring programs* are another mechanism that should be considered (Wicker & Herschel, 2001; Ingram et al., 2000; Ruch, 2000). *Staff rotation* among different units for training and new job opportunities is another opportunity to enhance networking (Hiebeler, 1996; Newell et al., 2002). Finally, *technologies* to facilitate networking include electronic bulletin boards, video conferencing, internet, intranet, e-mails, Lotus Notes and tele-conferencing (Benson, 1997; Anand et al., 1998; Sena & Shani, 1999).

2.10.5 DIALOGUE

Dialogue is an important means of enabling organisational members to make tacit knowledge explicit and sharing both tacit and explicit knowledge with others (Webber, 1993), and to build up relationship and trust (Dixon, 2002). Senge (1990) describes dialogue as an active listening and exploring of perspectives without critique, in a free, trusting and creative atmosphere. Dialogue enables people to develop a collective set of thoughts and meanings and to initiate new behaviours (Palmer, 1998).

McAdam and Reid's (2001) empirical study shows how different forms of dialogue contribute to knowledge sharing. Informal discussion was found to be the

favourite means of *capturing* tacit knowledge, while workshops, discussion forums and training needs analysis were considered the best ways of facilitating knowledge *dissemination.*

On the other hand, Storey and Barnett (2000) argue that "[d]ialogue can lead to conflict and disagreement rather than necessarily to agreement" (p.148), especially when power comes into it. Such dialogue can be seen as "a fragile series of interactions difficult to duplicate out of context and difficult to capture using formal documentation procedure" (Wick, 2000, p.518).

In spite of the difficulties associated with dialogue it is undoubtedly important in KM and if implemented appropriately will ultimately result in deeper levels of conscious knowledge and greater creativity (Fulmer et al., 1998; Crossan et al., 1999).

2.11 LEADERSHIP

2.11.1 OVERVIEW

Two important authorities on leadership are Burns (1978) and Bass (1985). Burns (1978) distinguishes between transactional and transformational leadership. Transactional leaders motivate followers through exchange; for example, accomplishing work in exchange for rewards or preferences. Transformational leaders pay great attention to interacting with followers to create organisational collectivity. They attempt to understand followers' needs and stimulate followers to achieve goals. Such leaders are rather flexible in working towards the desired outcomes; change will take place when it is needed.

Bass (1985) focuses on the relationship between superiors and subordinates. He considers that leaders carry out both transactional and transformational leadership, but in different combinations. Satisfaction of employees' needs and wants by transactional leaders involves existing rewards, while transformational leaders tailor or create new stimuli to satisfy staff needs. Transactional leaders adapt to existing organisational culture while transformational leaders adapt the culture to the

external environment.

2.11.2 THE COMPETING VALUE FRAMEWORK

Based partly on the models of Burns and Bass, Quinn (1988) outlined his Competing Values Framework, extensively used in the analysis of organisational effectiveness, information processing, organisational change, organisational culture and organisational decision-making. This model is here used to identify leadership styles that support knowledge sharing. The framework comprises four models, or quadrants created by *competing values* on two dimensions: an *'internal-external'* dimension and a *'flexibility-control'* dimension. The *open system* model emphasises the external-flexibility quadrant, whereas the *internal process* model emphasises the internal-control quadrant. The *rational goal* model focuses on the external-control quadrant and the *human relations* model focuses on the internal-flexibility quadrant.

The following description of these models is summarised in Table 2.3, based on Quinn & McGrath (1985, p.326-327) and Cameron & Quinn (1999, p.41). In this thesis, Quinn's four models are of primary interest for the leadership roles they prescribe. In all, eight leadership roles, two for each model, are described.

2.11.2.1 The Human Relations Model

In this model an organisation aims for a social, trusting and trustworthy workplace where individuals collectively learn from and share with colleagues through teamwork, participation, discussion, job rotation and consensus. The organisation is concerned for its customers and employees, and encourages morale and cohesion. Leaders are expected to be supportive of their people. In this model the emphasis is on affiliation and group harmony. Members are stimulated to foster commitment and loyalty, and rewarded on the grounds of group accomplishment. This model is based on McGregor's Theory Y (McGregor, 1960).

Effective leaders play roles of *facilitator* and *mentor* in this model, aiming to foster social interactions. *Facilitators* emphasise group harmony and consensus and invigorate interpersonal relationships to minimise conflicts and involve employee participation in problem-solving and enlarging organisational resources. Managers as *mentors* assist subordinates to develop job-related competencies with empathy

and consideration. They always attend to subordinates' requests, and are "helpful, considerate, sensitive, approachable, open and fair" (Quinn, 1988, p.41).

TABLE 2.3 Characteristics of Organisational Culture Types *

Model	Rational Goal	Open System	Human Relations	Internal Process
Culture Type	Rational	Adhocracy	Consensual	Hierarchical
Leadership Roles	Producer, Director	Innovator, Broker	Facilitator, Mentor	Coordinator, Monitor
Effectiveness Criteria	Market share, Goal achievement, Beating competitors	Cutting-edge output, Creativity, Growth	Cohesion, Morale, Development of Human Resource	Efficiency, Timeliness, Smooth functioning
Management Theory	Competition fosters productivity.	Innovativeness fosters new resources.	Participation fosters commitment.	Control fosters efficiency.
Decision-Making	Decisive Pronouncements	Intuitive insights	Participation	Factual analysis
Organisational Purpose	Pursuit of objectives	Broad Purposes	Group Maintenance	Execution of regulations
Authority Location	The boss	Charisma	Membership	Rules
Power Base	Competence	Values	Informal Status	Technical Knowledge
Members Evaluation	Tangible Output	Intensity of effort	Quality of relationship	Formal criteria
Appropriate Motives	Achievement	Growth	Affiliation	Security

* Source: Adapted from Quinn and McGrath (1985, p.326-327) and Cameron and Quinn (1999, p.41)

2.11.2.2 The Open System Model

Organisations following this model favour developing new markets, customers, and opportunities through employees' insights, pioneering inventions and innovations. Business operations are aimed at enriching external support, resource acquisition and organisational growth, and success is determined by the outputs, its products and services. Decision-making is multi-dimensional; decisions are made and continuously changed as the external environment changes. Therefore, leaders must be flexible and rapid, and capable of developing an active plan to cope with environmental changes.

Leaders are seen as idealistic and play two roles, *innovators* and *brokers*. *Innovators* investigate the external environment and absorb collected information and knowledge as rapidly as possible. Their intuitive insights clarify and identify future trends and create desired ideas and strategies for organisational competitiveness. Managers as *brokers* focus on retention of external legitimacy and collection of external resources. To achieve these aims, they strengthen connections with external entities. These managers are "politically astute, persuasive, influential and powerful" (Quinn, 1988, p.41).

Quinn (1988) proposes that in this model "motivation is seldom an issue. People feel fully committed and fully challenged. If they succeed in implementing a new vision, considerable external recognition and resources will follow" (p.40). This model is underpinned by Theory Y, as is the human relations model.

2.11.2.3 The Rational Goal Model
Organisations following this model emphasise goals, benchmarks and organisational structures. Productivity and organisational effectiveness are stressed along with performance, efficiency, competitiveness, productivity, market share and profit. Consequently, leaders tend to be rational achievers. Performance appraisal is based on evaluation of outcomes, and reward programs are focused on financial gain. This model is consistent with McGregor's Theory X (McGregor, 1960).

Managers play two roles, *producers,* characterised as goal-oriented and task-oriented, and *directors* who provide work instructions, plan tasks and set goals. Managers as *producers* emphasise employee productivity and achievement of goals and assignments. Managers as *directors* usually clarify roles and future directions for subordinates through establishing plans, structures and instructions, defining problems and seeking practical solutions.

2.11.2.4 The Internal Process Model
In this model, employees are controlled and organised by orders, regulations and rules, and operations are tied to standardisation and routinisation. Policies, procedures, job description, specifications are formally documented and

disseminated and oriented towards organisational consolidation and stability.

Managers as *monitors* govern subordinates in accordance with company rules and individual reviews. Managers as *coordinators* are trustworthy and comply with existing organisational structures and systems. They usually simplify routines and build up good relationships with other parties, leading to enhancement of employees' efforts. These two roles ensure that managers are responsible to and accountable for assigned tasks. This model emphasises the Theory X perspective. People who work in this workplace can be coerced and threatened with punishment, and are rewarded by assurance of job security.

The eight leadership roles described by Quinn and Cameron (1999) are expected to support knowledge sharing to different degrees. In particular, mentoring and facilitating roles seem most consistent with the types of organisational culture considered effective for KM in the studies described earlier.

2.12 ORGANISATIONAL LEARNING

2.12.1 ORGANISATIONAL LEARNING VS. INDIVIDUAL LEARNING

Organisational learning (OL) builds on individual learning and sharing to enhance organisational capabilities such as the development of new products or the improvement of organisational processes and systems (Jones et al., 2003). For Garvin (1993), "organisational learning means the process of improving action through better knowledge and understanding" (p.80). Organisational learning is distinguished from individual learning in involving processes and strategies for achieving organisational-level objectives. At the same time, organisational learning increases the collective competencies of employees of an organisation (Swieringa & Wierdsma, 1994): the outcome of OL is change and improvement in *both* the organisation and its employees.

The concept of OL reflects a major issue for KM, that individual learning does not necessarily translate into organisational learning. According to Swieringa and Wierdsma (1994):

"Individual learning is a necessary, but not a sufficient condition for organisational learning. An organisation only learns if someone not only does the job better, but as a result of this other members of the organisation operate differently. ... In short, it must be a question of mutual behavioural change, and therefore mutual [or so-called collective] learning" (p.33).

As Nonaka and Takeuchi (1995) point out, many studies of 'organisational learning' merely look at learning in an organisational context. In studying knowledge management it is necessary to focus on organisational-level, as well as individual-level, learning:

"organisational learning theories basically lack the view that knowledge development constitutes learning and most organisational learning theories concentrate on individual learning and have not developed a comprehensive view of learning at an organisational level" (p.8).

2.12.2 BEHAVIOURIST AND COGNITIVIST PERSPECTIVES OF OL

Fiol and Lyles (1985), Huber (1991), Knight (2002), Akbar (2003) and Akgun et al. (2003) differentiate concepts of OL stemming from behaviourist and cognitivist views of organisational behaviour. From the behaviourist perspective, organisational learning is passive, adaptive and predictable, while from the cognitivist perspective it is active, purposive and unpredictable.

According to Akbar (2003), in OL an observable shift is required in behaviours (outcomes that will take place in the near future), not just in cognitions (i.e. change in knowledge structure and interpretation). Thus behavioural outcomes involve knowledge creation and innovation while cognitive learning is based on information processing that does not lead to action. Individual learning occurs when people shift their cognitions; organisational learning occurs when adaptation takes place as individuals shift their cognitions to actions (Easterby-Smith et al., 2000).

2.12.3 KNOWLEDGE SHARING AND ORGANISATIONAL LEARNING

The process of effective organizational learning, by way of sharing information and knowledge among organizational members, enables individuals and organizations to reflect on the consequences of their behaviours and actions, to obtain insights from an environment where they operate, to understand the environment, and hence to interpret the meaning and react to it in more accurate approaches (Jones, et al., 2003). Through knowledge sharing, individual learning is triggered, in order to proceed to organizational learning. An organization provides

opportunities for employees to share their new learning and perspectives with others, as the sharing process is the only way to sustain the process of organizational learning. Otherwise, without the 'sharing', there is only individual learning, not organizational learning.

According to Spinello (2000), "organizational learning and knowledge sharing are intimately connected" (p.189). Sharing, thinking and learning have a reciprocity relationship, as the knowing process is composed of these three components. Sharing enables managers to keep the individual learning flowing throughout the company and to integrate it for practical applications, because it results in the enhancement of employees' capacity. In other words, individual learning does not make KM work; but organizational learning does. The overall effectiveness and contribution to the bottom-line profit, would not be attained unless the 'organizational learning' culture is developed. And then, the sharing process spontaneously takes place (Mayo, 1998; Salopek, 2000).

2.13 MASCULINE AND FEMININE TRAITS

Leadership styles of women and men are sometimes considered very different, although the empirical evidence is mixed. Some researchers, for example, Powell (1990) and Ferrario (1991) have failed to find differences in leadership styles, while others, such as Korabik (1990) and Ghei and Nebel (1994), do find differences. While the evidence is mixed, gender is examined in this thesis as any such differences would be important indicators of individuals' attitudes to learning and knowledge sharing.

According to Rigg and Sparrow (1994), adjectives used to describe feminine traits include counteractive, responsive, illogical, synthesising, systematic, submissive, soft, spatial and freeing. On the other hand, masculine traits are described as demanding, aggressive, logical, mechanistic, dominant, hard, sequential and controlling. These descriptions could also be seen as gender stereotyping without empirical evidence.

Dobbin (1985) concludes that "men leaders tend to distribute rewards based upon a norm of equity [i.e. fairness], ..., but women leaders typically distribute rewards based upon a norm of equality [i.e. equal right]..." (p. 588). For male leaders, rewards are given based on the degree to which their subordinates contribute to organisations, groups and projects; whereas, female managers, rewarding their subordinates, are "independent" of the degree to which individuals contribute to group performance. These different orientations show that male leaders value achievement, performance and contribution to team accomplishment while women leaders "are often socialised to value interpersonal aspects of a relationship" (p.595) and to strive for group harmony.

Korabik (1990) found that men use an "initiating structure" style of leadership (i.e. task orientation), while women use a "consideration" style (i.e. social-emotional orientation). This is supported by Ghei and Nebel (1994), who propose that female leaders value concern for the relationship between themselves and others and harmony of groups, while male leaders have more concern with themselves as individuals.

According to Baker (1991):

"a woman is affilitative [which is people-oriented] (sometimes referred to as expressive) and reactive , while a man is task-oriented (sometimes referred to as instrumental) and proactive. ... The style of man emphasises competition, has winning as the basic objective, and uses a rational approach to solve problems. The style of woman emphasises cooperation, values quality output as the basic object and relies on intuition to solve problems" (p.114).

In career choices, women tend to concentrate more on self-direction and intrinsic motivation, while men tend to orient towards more materialistic aims, goal-direction and extrinsic motivations such as status (Smith & Hutchinson, 1995, p.106). Wilson (1995) proposes that "women who have become managers may have been motivated by a higher need for achievement and self-actualisation than male managers" (p.130).

2.14 ORGANISATIONAL HIERARCHY

Bailey and Clark (2001) claim that the allocation of responsibility through organisational hierarchy has a considerable influence on KM. At each level of the

hierarchy, managers have their own concerns and tasks. Bailey and Clark developed an organisational Knowledge Management Activity Mix with four levels.

Senior Executives such as General Managers, Assistant General Managers, Directors of Human Resources and of Marketing and Sales will be concerned about 'strategic potential' and oriented towards 'future-forward' opportunities for organisational advancement and success.

Functional Managers such as Directors of Food and Beverage Divisions and Directors of Room Divisions are concerned with 'strategic fit', i.e. the bridge between future organisational goals and existing operational performance, in designing operational goals and strategies.

Front Line Managers such as Restaurant Managers, Front Desk Managers, Sales Managers, and Concierge Managers concentrate on "performance management" by developing tactical and operational programs for achieving operational and performance goals.

Technical Specialists such as Marketing Managers, Training Managers, Personnel Managers, and Information System Managers emphasise 'performance development' through understanding present and potential problems and improving products and services.

These four distinct levels of responsibility describe unique 'knowledge territories'. This study will investigate whether these cause employees to have different attitudes towards knowledge sharing.

2.15 ORGANISATIONAL EFFECTIVENESS

This thesis examines the contribution of knowledge sharing and organisational learning to organisational effectiveness. The latter is no more a straightforward concept than the former two. As noted in Section 1.1.2, knowledge sharing enables organisations to gain beneficial organisational effectiveness (for example, Petrash,

1996; Gupta & Govindarajan, 2000; Oliver, 2000; Storck & Hill, 2000).

Kirchhoff (1977) claims that "effectiveness is measurement of organisation performance relative to goals" (p.347), and describes organisational effectiveness as "the ultimate outcome of a combination of managerial effectiveness and factors not under organisational control" (p.348).

Venkatraman and Ramanuiam (1986) evaluate business performance from three different aspects: *financial performance* (such as growth rate of sales turnovers, profitability, return on investment, etc.), *operational performance* (such as market share, quality of product provision, marketing effectiveness, etc.) and *organisational effectiveness*. The latter contains the first two components, but also includes consideration of organisational goals and measurement of these goals against financial and operational performance.

According to Ozcan et al. (1997), organisational effectiveness consists of many dimensions and is difficult to measure, particularly in the services sector. Companies evaluate effectiveness according to different values (Walton & Dawson, 2001). However, researchers often fail to look at *gaps* in effectiveness (Walton & Dawson, 2001): "researchers focus on effectiveness of organisations, whereas managers focus on their ineffectiveness" (p. 178).

From a managerial viewpoint, criteria for measuring organisational effectiveness include employee turnover (Ferris et al., 1998), employee job satisfaction (Ferris et al., 1998), employee mobilisation (Ferris et al., 1998; Walton & Dawson, 2001), customer services (Kraft et al., 1996; Ferris et al., 1998; Walton & Dawson, 2001), service quality (Ferris et al., 1998), employee productivity (Ferris et al., 1998; Walton & Dawson, 2001), return on investment (Ferris et al., 1998), return on assets (Ferris et al., 1998), organisational competitiveness (Walton & Dawson, 2001), market shares (Ferris et al., 1998) and stock price (Ferris et al., 1998). Some organisations, according to Ferris et al. (1998), also emphasise politics or power and control.

Kaplan and Norton (1992) propose that any criteria are for measuring

organisational effectiveness should assess organisational competitiveness and profitability in the long run. They propose that, in addition to the financial performance, companies also need to evaluate criteria of operational performance such as product quality, stock inventory and ability to innovate. To systematically cover the financial and non-financial areas, Kaplan and Norton (1996) developed the Balanced Scorecard for measuring organisational performance and effectiveness, consisting of four constructs: financial, customer, internal business and innovation and learning perspectives.

In the hospitality studies, Au and Tse (1995) have focused on occupancy performance space and Enz and Canina (2002) on revenue per available room as measures of effectiveness on the basis of financial performance. Phillips (1999) claims that organisational learning, human resources, and customer satisfaction should also be considered, and Davidson (2003) also suggests that customer satisfaction is a key contributor to organisational effectiveness.

2.16 SUMMARY OF THE CHAPTER

The literature review has examined four aspects of the KM concept. First, employees *identify, acquire* and *apply* useful knowledge during *individual learning*. This individual knowledge is then *made explicit* and *shared* amongst individuals in a team or unit, through their own initiatives (such as dialogue and intranet), or through organisational actions involving groups of people (such as training sessions and social interactions). This sharing produces *organisational knowledge* that is more widely dispersed and transformed into a more relevant form than individual knowledge. However, this knowledge must be *stored* in organisational memory systems that *distribute* it even more widely and *perpetuate* it. These may be physical systems such as documentation, repositories or computer systems, or organisational routines. The memories in these systems are likely to be both *explicit*, especially in physical systems, and *tacit*, especially in informal routines such as conventions for 'doing-it this way'. Finally, employees *retrieve* organisational knowledge from organisational memory systems and apply it to day-to-day operations; alternatively, employees can receive this organisational knowledge by

retrieving and transferring approaches such as training sessions.

Five factors affect employees' participation in acquisition or retrieval from organisational memory. First, employee *motivation* must be based on a Theory Y management style. *Leadership roles* of facilitators, mentors, innovators and brokers should be the most appropriate to KM. Second, the *organisational culture* must focus on collaboration. Third, *organisational memory systems* must be accessible to employees. Fourth, *social interactions* must create an environment in which participants regularly communicate. Finally, *individual behaviours and attitudes*, including job-related techniques and skills, learning attitude and ability, and personal attitude to sharing and storing, also affect knowledge sharing.

This thesis will examine the broad proposition that knowledge sharing practices allow companies to create new organisational knowledge and enhance organisational learning. This, in turn, should increase overall organisational effectiveness.

CHAPTER THREE: THEORETICAL FRAMEWORK AND RESEARCH DESIGN

3.1 INTRODUCTION

This chapter describes the hypothesised relationships (theoretical framework) behind this research. Twelve hypotheses are developed. This chapter also contains the research design which was used for the study. The Design section contains information about population and sampling, identification of appropriate research methods and instruments, a consideration of validity and reliability and proposed techniques of data analysis.

3.2 THE DEVELOPMENT OF A THEORETICAL FRAMEWORK

3.2.1 THEORETICAL FRAMEWORK

The theoretical framework was developed on the basis of the literature review and the results and analysis of the qualitative exploratory study. Hypothesised relationships for the empirical research are illustrated in Figure 3.1. The literature review has suggested that individual behaviours (including individual competencies, and individual attitude to sharing, storing and learning) affect outcomes of knowledge sharing implementation. Leadership roles and organisational culture should play moderating effects between individual behaviour and knowledge sharing. This sharing results in organisations gaining the beneficial outcomes of organisational learning and effectiveness.
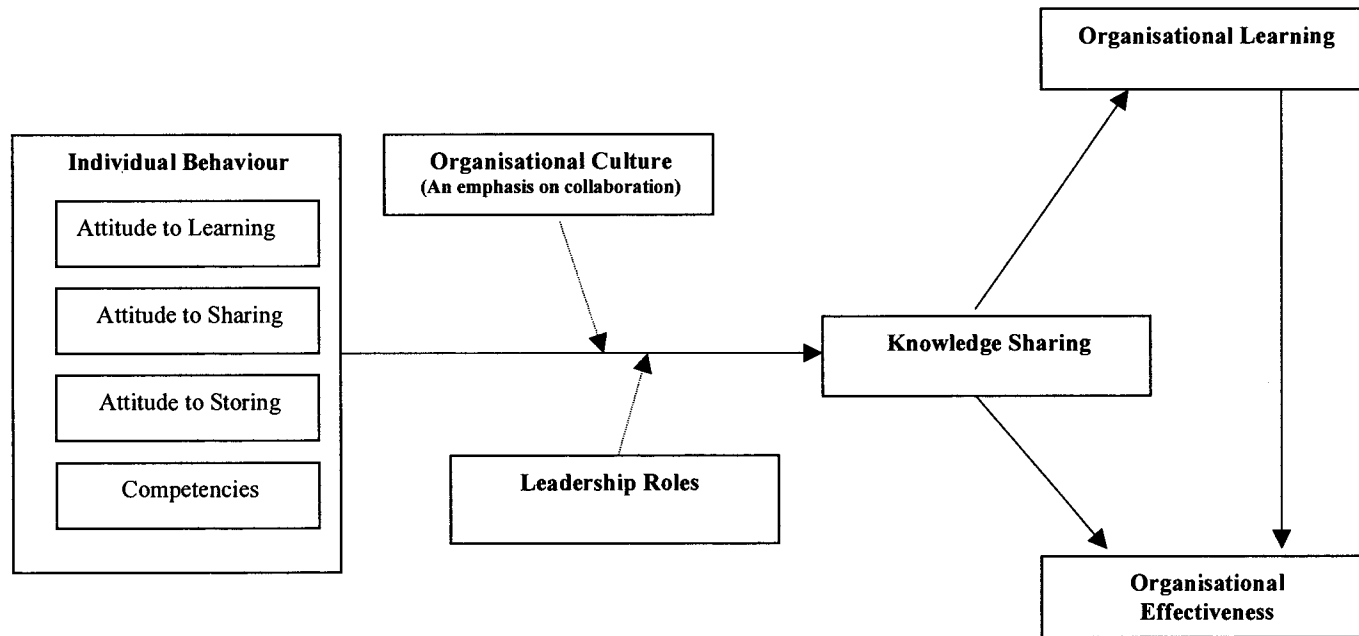
Figure 3.1 Hypothesised Relationships

The diagram contains the following labelled boxes and relationships:

- **Individual Behaviour**
  - Attitude to Learning
  - Attitude to Sharing
  - Attitude to Storing
  - Competencies
- **Organisational Culture** (An emphasis on collaboration)
- **Leadership Roles**
- **Knowledge Sharing**
- **Organisational Learning**
- **Organisational Effectiveness**

3.2.2 DEFINING VARIABLES

The theoretical framework mentioned in the preceding section was used to examine how individual attributes affect outcomes of knowledge sharing in an organisation as a whole, and furthermore to explore the extent to which knowledge sharing influences organisational learning and organisational effectiveness.

The independent variables which were defined in this study, include: individual attitude to sharing and storing, individual competencies (such as techniques and skills related to a job), individual attitude to learning and demographic variables (such as gender, age, academic qualification, tenure in the current hotel and the hospitality industry). In this study, 'sharing' is defined as mutually transferring relevant information to others (Bartol & Srivastava, 2002), while 'learning' means absorbing knowledge and applying it to the routines (Senge, 1998).

The dependent variables were knowledge sharing, organisational learning and organisational effectiveness. Knowledge sharing is defined as a transfer process where individual competencies are developed through sharing and learning from others (Armistead & Meakins, 2002). Organisational learning is described as a continuous transformation process of transferring individual knowledge to organisational systems (Swieringa & Wierdsma, 1994). Organisational effectiveness is defined as an outcome of managerial effectiveness and operational performance (Kirchhoff, 1977; Venkatraman & Ramanuiam, 1986).

In addition, some moderating variables (Cooper & Schindler, 1998) were identified. It was predicted that these would significantly influence the original independent-dependent variable relationship. These moderating variables include leadership roles - consisting of facilitator, mentor, innovator, broker, producer, director, coordinator and monitor (Quinn, 1988) - and organisational culture with an emphasis on collaboration (Sveiby & Simmons, 2002).

3.2.3 DEVELOPING RESEARCH HYPOTHESES AND QUESTIONS

There are a number of benefits from developing such a comprehensive theory of KM. First, testable hypotheses can guide future research direction. Cooper and Schindler (1998) claim that the proliferation of interesting but unconnected

information in the literature can lead to research which is poor in quality. Developing a theory enables researchers to clarify what should or should not be included in the study. A second benefit is, as Cooper and Schindler propose, that these hypotheses assist researchers to determine the best research method. Third, the hypotheses suggest tests of statistical significance that can be compared over different studies.

KM studies have reported many variables affecting individual learning and knowledge sharing. Some, such as rewards, IT variables, social interactions, leadership and corporate culture, have been empirically examined. However, no previous studies have attempted a broad integration of all of these in a comprehensive theory of KM, and this is the major contribution of this study. Twelve descriptive, correlational and explanatory (or causal) hypotheses and five exploratory questions were identified from the literature review and the results of the pilot study.

The literature suggests that three factors primarily influence outcomes of knowledge sharing: individual behaviour, leadership roles and organisational culture. First, critical elements which affect knowledge sharing are individual behaviour, in particular, attitude to sharing (e.g. Baum & Ingram, 1988; Armistead & Meakins, 2002; Dixon, 2002), attitude to storing (e.g. Argote & Ingram, 2000; Gupta & Govindarajan, 2000; Zollo & Winter, 2002), attitude to learning (e.g. Davenport et al., 1998; Cameron, 2002; Roth, 2003) and individual competencies (e.g. Szulanski, 1996; O'Dell & Grayson, 1998).

Second, leaders in a team play an important role in nurturing a healthy work atmosphere for their subordinates (e.g. Hendriks, 1999; McDermott & O'Dell, 2001; Grandori & Kogut, 2002).

Last, organisational culture should focus on collaboration (e.g. Liedtka & Rosenblum, 1996; Sveiby & Simons, 2002; Droege & Hoobler, 2003). Eventually, this sharing enables organisations to gain beneficial organisational learning (e.g. Spinello, 2000; Jones et al., 2003; Hwang, 2003) and organisational effectiveness (e.g. Petrash, 1996; Gupta & Govindarajan, 2000; Oliver, 2000; Storck & Hill,

2000).

The results of the qualitative pilot study in the early stage of the research indicate that gender, education level, tenure in the industry and hotel, and organisational hierarchy might influence employees' sharing and learning.

3.2.3.1 Research Question 1: To what extent do individuals' attitudes to learning, and to sharing and storing knowledge, influence organisational knowledge sharing?

This research question explores the impact of demographic variables on knowledge sharing and learning, preferred media for knowledge sharing and the influence of individual behaviour on knowledge sharing.

Hypothesis 1: Gender, age, education level, tenure in the current workplace, tenure in the hospitality industry, organisational hierarchical level, and departmental environment influence individuals' attitudes to sharing.

H1a: Female employees have more favourable attitudes to sharing than male employees.

H1b: Older employees have more favourable attitudes to sharing than other groups.

H1c: Employees with graduate degrees are the most likely to share.

H1d: Employees with fewer years of employment in the current hotel have more favourable attitudes to sharing than those with more seniority.

H1e: Employees with fewer years of employment in the hospitality industry have more favourable attitudes to sharing than those with more experience.

H1f: Employees with a position in the top management level have more favourable attitudes to sharing than other groups.

H1g: Employees who work in the Room division are more likely to share their knowledge than groups who work in other divisions.

Hypothesis 2:

H2a: Employees prefer to share knowledge in social interactions rather than training programs.

H2b: Employees prefer to share knowledge in spontaneous circumstances rather than pre-set occasions.

Hypothesis 3: Gender, age, education level, tenure in the current workplace, tenure in the hospitality industry, organisational hierarchical level, and departmental environment influence individuals' attitude to learning.

H3a: Female employees have more favourable attitudes to learning than male employees.

H3b: Older employees have more favourable attitudes to learning than other groups.

H3c: Employees with graduate degrees are the most likely to learn.

H3d: Employees with fewer years of employment in the current hotel have more favourable attitudes to learning than those with more seniority.

H3e: Employees with fewer years of employment in the hospitality industry have more favourable attitudes to learning than those with more experience.

H3f: Employees with a position in the top management level have more favourable attitudes to learning than other groups.

H3g: Employees who work in the Room division are more likely to learn than groups who work in other divisions.

Hypothesis 4: Individual competencies positively influence knowledge sharing.

Hypothesis 5: Attitude to sharing positively influences knowledge sharing.

Hypothesis 6: Attitude to storing positively influences knowledge sharing.

Hypothesis 7: Attitude to learning positively influences knowledge sharing.

In addition to these hypotheses, this study also investigates five questions in depth. Two questions are related to individuals' knowledge sharing behaviour. These questions are intended to benefit those involved in the practical operation of hotel management.

Exploratory Question 1: What is employees' attitude to knowledge sharing; is it favourable?

Exploratory Question 2: How are individuals most likely to deal with acquired knowledge?

3.2.3.2 Research Question 2: What is the extent and nature of knowledge sharing in international tourist hotels in Taiwan?

This research question covers: content of, media for, and obstacles to knowledge sharing, and approaches to knowledge storing.

Hypothesis 8: The type of knowledge shared varies across different levels in the organisational hierarchy.

   H8a: Front-line staff share more operational knowledge than strategic knowledge.

   H8b: Top management staff share more strategic than operational knowledge.

Exploratory Question 3: What sorts of media are used for knowledge sharing?

Exploratory Question 4: What factors inhibit knowledge sharing?

Exploratory Question 5: How do hotels store their organisational knowledge?

3.2.3.3 Research Question 3: What is the extent to which leadership roles influence knowledge sharing?

Hypothesis 9: 'Mentor' and 'facilitator' leadership roles contribute more than other roles to knowledge sharing.

3.2.3.4 Research Question 4: What is the extent to which organisational culture with a focus on collaboration influences knowledge sharing?

Hypothesis 10: An organisational culture with an emphasis on collaboration favours the positive outcomes of knowledge sharing.

3.2.3.5 Research Question 5: What is the extent to which knowledge sharing influences organisational learning and organisational effectiveness?

Hypothesis11: Knowledge sharing positively influences organisational learning.

Hypothesis 12: The outcomes of knowledge sharing and organisational learning positively influence organisational effectiveness.

3.3 RESEARCH DESIGN

The purpose of the design is to plan resources and methods which can be used for exploring and examining the research questions. The research design is a blueprint, containing procedures, sampling, methods for collecting the data, instruments and measurement and techniques for analysing the data (Cooper & Schindler, 1998). The following research design was used for this study.

3.3.1 EMPIRICAL RESEARCH PROCEDURES

The research contained three phases: first, an exploratory qualitative study based on semi-structured interviews; second, pilot testing of the questionnaire for the main study; and third, quantitative data collected by questionnaire in a cross-sectional study of a sample of hotel employees.

3.3.1.1 Phase One: Exploratory Qualitative Study

Thirty five interviews were conducted with an assistant general manager, human resource managers, middle managers and front line employees. Each interview lasted approximately one to one and a half hours. Where responses were vague or short on detail, interviewees were prompted to elaborate. The study terminology was explained prior to each interview and questions were rephrased as necessary. The interviews were conducted in either the business centre of the respondent's hotel or in a restaurant outside the hotels. Each interview was tape-recorded if the interviewee agreed and the interview texts were coded by using the QSR N5 (NUD*IST) software.

3.3.1.2 Phase Two: Pilot Testing the Questionnaire

A questionnaire survey was next constructed from the literature review and the results of the exploratory interview study and pre-tested on a selected group, lower and middle level management positions and front-line employees, from seven international tourist hotels in Taipei. Respondents were volunteers and were required to consent in writing. 300 questionnaires were distributed and 117 were returned within a month, including 23 that were unusable, either being incomplete or from employees who had been working for less than six months. The response

rate after deducting the unusable questionnaires was 31.33 %.

At the same time as the questionnaire was distributed and completed, the author ran three interviews with a concierge supervisor, a receptionist and a room sales account manager, to review the questionnaire, in terms of wording and meaning. The aim was to minimise the distorted and irrelevant responses. This step helped reduce what Cooper and Schindler (1998) call 'the instrument as an error source'.

3.1.3.3 Phase Three: The Questionnaire Survey

The survey questions were revised in light of feedback from pilot interviews and the results of the preliminary data analysis of the pilot questionnaire. It was subsequently distributed to 1200 participants across nine international tourist hotels, using the human resource department of each for distribution and return. 1200 questionnaires were distributed and 546 were completed and returned, including 47 unusable. The response rate after deducting the unusable questionnaires was 41.6%.

3.3.2 SAMPLING DESIGN

According to the Tourism Bureau (2001), all hotels in Taiwan are classified into three levels and are termed as international tourist, tourist and ordinary hotels. These three different classes of legally licensed hotels number 2693 properties in total. Nine of 59 international tourist hotels are globally managed or franchised by international companies of hotels and resorts such as Hyatt International and Shangri-La Groups. The other properties are locally managed hotels.

3.3.2.1 Exploratory Qualitative Study: Interview Participants

Thirty five interviewees were selected from four hotels and were mainly from two hotels. The sampling design for this interview used the purposive judgment sampling method. The use of this method enabled the author to collect useful data in depth and in breadth. Selected interviewees were working in the departments of Human Resource, Information System and Technology, Sales and Marketing, Food and Beverage, and Front Office of the Room Divisions. Selected employees from each hotel had been with the current company for at least six months. The purpose of setting up such criterion is to collect reliable and credible data from the participants. Profiles of interviewed respondents were included in Table 3.1.

TABLE 3.1 Profiles of Interviewed Respondents (N=35)

	Company A (n)	Company B (n)	Company C (n)	Company D (n)	Total (n)
Senior/top managers	2	2	1	2	7
Middle-level managers	5	4	3	4	16
Front-line staff members	5	4	2	1	12
Total (n)	12	10	6	7	35

All levels of employees were involved in order to gather information from different perspectives. There is a requirement of top management to implement any policies. Human resource managers play a crucial role in the 'change' process of creating a healthy organisational culture for practising sharing and learning activities. The selected front line staff should provide a check on the validity of the views expressed by the managers.

Company A is an internationally operated chain hotel with a management contract. Company B Company C and Company D are locally operated hotels with different franchise contracts for famous international chain hotels. All companies are equipped with similar facilities (i.e. guestrooms, outlets and/or departments) in their properties with the same level of labour productivity (which is referred to the ratio of number of total employee to that of hotel guestrooms and food and beverage outlets). These hotels are competing in the same target markets.

3.3.2.2 Quantitative Study: A Questionnaire Survey

With a large number of properties in the hotel industry in Taiwan, the elements of the study needed to be narrowed. With respect to the sampling frame, the focus of this investigation was thus limited to nine international tourist hotels which are globally managed or franchised by well-known groups: Hyatt, Shangri-La, Westin, Four Seasons & Regent, Sheraton, Four Points by Sheraton, Nikko, Holiday Inn and General Hotel Management (GHM). The targeted hotels which were selected for the research sample are referred to in Table 3.2.

This sample provides better access than other hotels to information about

knowledge sharing practices, which the author perceived would be scrupulously important in their operations.

TABLE 3.2 Profiles of the Researched Hotels

Property	Managed/ Franchised By	Number of Rooms	Number of F&B Outlets	Total Number of Employees
Far Eastern Plaza Hotel Taipei	Shangri-La	422	9	640
Grand Formosa Regent Taipei	Four Seasons & Regent	538	10	812
Grand Hyatt Taipei	Hyatt Int'l	856	10	926
Holiday Inn Asiaworld Taipei	Holiday Inn	754	4	378
Four Points Sheraton Hotel Chung Ho Taipei	Starwood	126	2	108
The Westin Taipei	Starwood	288	5	408
Sheraton Taipei Hotel	Starwood	686	12	687
The Lalu, Sun Moon Lake	GHM	98	5	203
Hotel Royal Taipei	Nikko Hotel Int'l	202	4	278

According to Cooper and Schindler (1998), from the statistical perspective, the validity of a sample needs to be tested; and it is determined by two criteria: accuracy and precision. The involvement of all levels of staff should reduce bias sampling with respect to these two criteria.

Even though the international tourist hotels in the study sample were chosen because of their accessibility, the author was not allowed to contact potential respondents directly as the HR managers of the participating hotels could not give out mailing lists. Therefore, questionnaires were given to the HR managers who then distributed them to potential respondents. However, the HR managers assured the author that the respondents would be randomly chosen and the questionnaire would be returned with anonymity.

In order to minimise random sampling error, the following procedures of collecting the data were undertaken. First, HR managers of all hotels in the sampling frame were contacted for permission to distribute the questionnaires. Second, all of the questionnaires were sent to HR managers. Third, these passed the

questionnaires on to departmental managers. Fourth, the questionnaires were then randomly distributed to potential respondents. Fifth, the completed questionnaires were returned to the HR department. Sixth, after the collection of the questionnaires from each department, they were sent back to the author. Through this procedure, the sample elements were randomly selected and drawn; thus every attempt was made to avoid systematic variance and sampling errors/random fluctuations, which can distort the survey results.

All levels of employees were invited to participate in this study, in order to gather sufficient information from different perspectives and to enhance the statistical efficiency of the sample. The distribution of the questionnaires to participants was planned as follows: 20% of the distributed questionnaires were from the top management, such as G.M., Assistant G.M. and departmental managers/directors. 40% were collected from the middle and lower level (such as sub-departmental managers and supervisors) and another 40 % from the front line employees. This plan was based on the composition of the workforce in international tourist hotels in Taiwan. An average of 60 survey forms were sent to each hotel, depending on the size of the hotel, approximately three tenths of the hotel full-time employees (this also was negotiated with the HR managers and/or managers of operations).

3.3.3 DATA COLLECTION

This study involved both semi-structured interviews and questionnaires for collecting the data, combining qualitative and qualitative approaches.

3.3.3.1 Exploratory Qualitative Study

As Zikmund (1997) notes, the best approach to an exploratory study is through qualitative research. This choice was intended to capture insights into the context of knowledge management practices in the hospitality industry since there was lack of relevant literature. The primary purpose of this method was to organise these raw data, and then to explore their interrelations and hence to develop a theoretical explanatory scheme (Strauss & Corbin, 1998).

Churchill (1991) describes an exploratory study as enabling researchers to form

hypotheses, to refine concepts, to understand in-depth theory and, most importantly, to explore certain practical problems. Moreover, quantitative research has limitations in discovering behaviours, beliefs and values as important variables might not be described in existing literature reviews or quantitative studies. Even if a theory has been broadly developed, through an exploratory qualitative study the author attempted to tailor the scope of the main quantitative study to the practices and theory of the hospitality industry. Furthermore, this study might help refine and revise the research questions and hypotheses. Finally, the exploratory study might help to refine a survey instrument for further study.

Semi-structured interviews were employed in the pilot study. The use of interviews was intended to collect rich data and thus to generate new theory from the data, enabling the author to collect in-depth data through probing questions. As well, during the interview, supplementary information can be obtained from observation of the interviewee's body language and work environment (Cooper & Schindler, 1998).

The reason for using the semi-structured interview approach, rather than in-depth or structured interviews, was the greater flexibility in exploring individual's responses and reflections on their operations. Extra or in-depth questions were raised when responses were ambiguous or not detailed. The semi-structured format can also provide respondents with more flexibility to describe why and how. In addition, interviewees were encouraged to explore and describe the climate and organisational culture in their workplace. Interviewees were encouraged to present their perspectives and direct on-going discussion.

To ensure accuracy of data analysis and the reduction of observer bias, interviews were taped-recorded after receiving participants' permission. Notes were also taken during interviews, and responses were repeated back to respondents. These practices aimed to ensure the quality of data collection.

3.3.3.2 Quantitative Main Study

A quantitative survey method was used to allow statistical inferences from a sample's characteristics to that of the population (Cooper & Schindler, 1998). A

survey method also allowed capturing a broad cross-sectional view of the research issues, and encouraged confidentiality in relation to sensitive issues of employees' attitude to knowledge sharing. Since this was primary research on a new theory of KM practice in the hotel industry, it was desirable to have a large number of responses for reliability and validity – a survey is more efficient and less costly than a qualitative study.

The data collection procedures were explained above. In order to reach an adequate response rate, initial official approval for the research was sought from human resource managers and operations managers of participating hotels, and follow-up telephone calls were made to each.

To guard against informants responding to questionnaires without reading instructions, as well as the distractions of the workplace environment, respondents were encouraged to fill in questionnaires either during slack time or in their own time. This was facilitated through the author's personal acquaintance with his industry connections.

3.4 INSTRUMENTS

3.4.1 EXPLORATORY QUALITATIVE STUDY

Open-ended questions were developed into an interview guide as follows. The questions were selected based on interviewees' positions, with three different sets of questions for different working departments. The term 'knowledge' was explained prior to each interview.

3.4.1.1 The Semi-Structured Interview Guide

Before each interview, the following was explained to interviewees:

"There is a high turnover rate, especially of the front line employees and supervisors. Most hoteliers have attempted to plan various types of training and development programs, and reward systems for minimising the loss of intangible assets. However, it seems that the turnover rate still affects retention of information. This is why I am interested in

finding out how knowledge sharing can benefit a company operation. 'Knowledge' in this study is defined as that knowledge which is related to company's customers, products and services, operational procedures, competitors and job associates. It could be found in people's heads, stored in documents/papers, or located in electronic devices."

Two preliminary open-ended questions were asked to provide a basic orientation to knowledge management practices: 'How does your hotel encourage you to share what you know with colleagues?' and 'How does your hotel store knowledge?'

3.4.1.2 A List of Interview Questions

Three sets of interview questions (see Appendix C) were developed before the first interview. Questions were selected from a list depending on responses to two preliminary questions, the department which the participants worked for, and the interviewees' interests and reaction over the period of the interviews. People from Information Systems and Sales and Marketing Departments (Category B and C questions) were asked extra questions. In addition, interviewees were encouraged to explore and describe the climate in their workplace and organisational culture.

3.4.2 QUANTITATIVE STUDY

3.4.2.1 Measurement and Scaling

Many items in the questionnaire used a seven-point numerical scale with anchors ranging from 'nil' and 'very low' to 'extremely high', "frequency" anchors reflecting how often stated activities occurred in organisational routines. The seven-point Likert scale was also widely used: this asks respondents to state their degree of disagreement or agreement with statements of perceptions and organisational behaviours (Churchill, 1991). The anchors were '1: strongly disagree' and '7: strongly agree'. The seven-point scale facilitates sensitivity of measurement and extraction of variance (Cooper & Schindler, 1998).

Questions were clarified with precise descriptions of each scale point. For example, the question "How often do you share job-related knowledge using the following communication media?" was clarified with "What is the AVERAGE

extent to which these media are carried out in a YEAR term?", and the seven-point scale had responses '1: never', '2: half yearly', '3: quarterly', '4: bimonthly', '5: monthly', '6: weekly', and '7: more than once per week'.

3.4.2.2 The Development of the Questionnaire

The design of the questionnaire was mainly based on the literature review and the findings of the exploratory study.

The questionnaire used every-day operational words from the hotel industry and lay terms to explain theoretical concepts, in order to prevent the instrument being an error source. Moreover, the author ran three interviews to review the questions while distributing the piloted questionnaire and waiting for its completion, to examine whether respondents understood the questions in terms of wording and meaning. The questionnaire was then revised based on their comments. This minimised respondents' tendency to make improper responses through misunderstanding questions (Cooper & Schindler, 1998).

The questionnaire was translated from English to Mandarin. The author conducted the following procedures in order to ensure the reliability, credibility and validity of the translation. First, a discussion forum was organized for the translation of the research questionnaire. Second, three competent participants with a bachelor-degree qualification and at least three-year supervisory experience in the hotel industry, were invited to translate the questionnaire from English to Mandarin. Third, during the resulting discussion, the author tried to reconcile what the participants said/translated with the statements of the questionnaire. Last, the finalised questionnaire in Mandarin was developed on the basis of the outcomes of this discussion process.

In order to minimise errors of leniency, central tendency and the halo effect, items were both positively and negatively worded (Spector, 1992; DeVellis, 2003). Through the author's personal acquaintance the managers in the chosen hotels were convinced to encourage their colleagues and subordinates to pay good attention to filling out the questionnaire.

To minimise missing data the messages: "please make sure that you respond to all questions" and "please check that you have responded to all questions" were included at the beginning and end of the questionnaire. The questionnaire did not contain sensitive questions or controversial issues.

The questionnaire was pre-tested in order to gather feedback from the respondents, and this process ensured final respondents had sufficient knowledge to fill it out. Completed questionnaires were excluded from the data analysis if there was a large number of errors.

3.4.2.3 Content of the Questionnaire

This questionnaire was presented in both Mandarin and English. It contained three sections: informant's perceptions of KM issues; present KM practices in the hotel; and demographics (see Appendix D). To ensure internal validity, many constructs were measured by existing instruments. The others were carefully designed by the author on the basis of the literature review and the qualitative pilot study (see Table 3.3).

A large proportion of the questionnaire used similar seven-point Likert scales to ensure respondents could easily understand the responses. Additional remarks were sought with open "Others (Please specify)" items. A definition of the term knowledge was provided. Respondents were advised that responses were confidential and anonymous.

The first section sought perceptions of respondents' knowledge sharing attitude, learning attitudes and competencies. Items measuring the constructs of individual attitudes to knowledge sharing, knowledge storing, and individual competencies were developed from the literature review and results of the exploratory study. The construct of individual attitudes to learning was adapted from Cameron and Quinn (1999). Five questions which focused on attitude to learning were selected.

The second section examined the extent to which participating hotels employ knowledge sharing and storing. 'Outcomes of knowledge sharing' were measured by twelve questions. Seven questions were developed on the basis of the literature

review and results of the pilot study. Others were adapted from Sveiby and Simons (2002), thus ensuring reliability and validity.

In order to investigate the extent to which knowledge sharing and storing was implemented in the hotels, five other aspects of hotel operations were considered. This required respondents to rate the frequency they had experienced each item in a list using a seven-point scale. These aspects were: content of, obstacles to and media for knowledge sharing, approaches to knowledge storing and flow of knowledge. The items of the instrument were devised on the basis of the literature review and results of the pilot study.

TABLE 3.3 Sources of the Constructs

Constructs	Scale Measurements	Questions involved in the Questionnaire	Sources
Attitudes to sharing	8 items	Section A, Question 1-5d	Yang (2004b), Self-devised
Attitudes to storing	7 items	Section A, Question 13a-15c	Yang & Wan (2004), Self-devised
Individual competence	3 items	Section A, Question 11-12b	Self-devised
Attitudes to learning	5 items	Section A, Question 6-10	Cameron & Quinn (1999)
Knowledge sharing	12 items	Section B, Question 1-5, 25-29	Sveiby & Simons (2002), Yang (2004b), Self-devised
Leadership roles	16 items	Section B, Question 14a-p	Cameron & Quinn (1999)
Organisational culture	15 items	Section B, Question 15-24, 30-34	Sveiby & Simons (2002)
Organisational learning	5 items	Section B, Question 35-39	Cameron & Quinn (1999)
Organisational effectiveness	5 items	Section B, Question 39-44	Cameron & Quinn (1999)

There are many theoretical models and perspectives on leadership that are not always compatible. This research assessed leadership using the whole set of Quinn and Cameron's Leadership Style Assessment Instrument (Quinn, 1988), which is widely employed and has demonstrated validity and reliability. It measures eight leadership roles: facilitator, innovator, producer, coordinator, mentor, broker,

director and monitor. Participants rated their superiors' styles on a seven-point scale with frequency anchors.

The construct of organisational culture (emphasising collaboration) was measured by Sveiby and Simon's 15-item scale (2002). This instrument measures the sharing culture of an organisation in three areas: "business unit support", "immediate supervisor support" and "work group support". This instrument has been shown to have high reliability and good validity. The dependent variables of organisational learning and organisational effectiveness were adapted from Cameron and Quinn (1999) and measured with a seven-point Likert scale. Based on the definitions of organisational learning and organisational effectiveness (see section 3.2.2), five questions were selected for each variable.

The last section sought respondents' demographic details, including employment status, number of years in the industry, age, current position, gender, level of education and duration of employment with the current hotel.

3.4.2.4 Pretesting the Questionnaire

The questionnaire was pre-tested with respondents from lower and middle level management positions and front line employees of seven international tourist hotels in Taipei. The purpose was to refine the questionnaire, so judgement sampling was used. This process attempted to detect weaknesses in design and measurement and to discover potentially significant issues which had been left out.

The data from this pilot was analysed to ensure appropriateness of measuring techniques, and the verbal feedback from the respondents was analysed, leading to revision of the questionnaire in several ways. First, some statements were re-worded. Second, thirteen questions were removed: these were considered not essential to the study and it was decided to shorten the instrument. Third, a correlation analysis showed five questions related to individual competencies could be converted into three questions. Fourth, two repetitious statements relating to the variable of organisational effectiveness were changed. Fifth, the piloted questionnaire had two response columns referring to 'sharing' and 'gathering' aspects: the 'gathering' column was deleted because a large proportion of returned

questionnaires showed the same responses in both columns.

3.5 VALIDITY AND RELIABILITY OF THE DATA

3.5.1 VALIDITY

The interview questions for the exploratory study were based on the literature review, while the main survey questions involve self-developed scales based on findings of the exploratory study and the literature review, as well as published instruments. Content validity, the "degree to which the content of the items adequately represents the universe of all relevant items under study" (Cooper & Schindler, 1998, p.167), was ensured in the self-developed scales by using the literature review to surface previously researched items and propositions.

3.5.2 RELIABILITY

To remedy the influence of measurement errors, possible sources which might contaminate the results were considered prior and eliminated prior to the research. For example, every-day operational words and paraphrases were chosen and revised after reviewing with potential respondents. Measuring scales were clarified with precise descriptions of each scale point to minimise informants' need for interpretation. Other efforts to reduce instrument error were described above.

Internal consistency is the "degree to which instrument items are homogeneous and reflect the same underlying construct(s)" (Cooper & Schindler, 1998, p.171). Cronbach's coefficient alpha was used for testing constructs. According to Spector (1992), alphas should be at least 0.7 for acceptable internal consistency (p.32). Cronbach's alpha was used rather than the split-half method because there were a number of different scales (Cooper & Schindler, 1998). The results of the Cronbach's alpha tests are shown in Chapter Five.

3.6 DATA ANALYSIS

3.6.1 THE QUALITATIVE STUDY[1]

The exploratory study aimed to understand in intricate detail the meaning and context of KM implementation in the hotel industry. So, coding and analysing the data was based on the grounded theory approach of Glaser and Strauss (1973), who propose that it facilitates "the generation of theories of process, sequence and change pertaining to organisations, positions and social interaction" (p.114). Grounded theory analysis allows researchers to discover the meaningful features and variables of a topic from complex organisational contexts and phenomena. As a result, researchers are assisted to easily and comprehensively interpret qualitative data and thus to further develop logical and persuasive results (Glaser & Strauss, 1973; Martin & Turner, 1986; Gupta, Iyer & Aronson, 2000a). Martin and Turner (1986) claim that the grounded theory approach is suitable for processing and coding qualitative data collected from semi-structured, unstructured and in-depth interviews.

Glaser and Strauss (1973) and Gupta et al. (2000a) claim that when developing theory researchers do not need to conduct random sampling. While statistical sampling can be used for verification of the quantitative data based on a solid theoretical framework, for studies of new ideas or potential theory qualitative exploratory studies will be more useful. By seeking possible variables and investigating their relationships in a rich context researchers can identify a theoretical framework for further verification.

In grounded theory researchers rely on coded data files to thoroughly understand the context and underlying meanings, avoiding the problem of raw data being unpredictable, ambiguous and unmanageable.

3.6.1.1 Data Coding

Of original interview transcripts, 30 were in Mandarin and 5 were in English. The Chinese transcriptions were translated to English by the author. All of the

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[1] The original concept of this sub-section is based on Glaser and Strauss (1973) and Strauss and Corbin (1998) propositions.

interview texts were coded by using the QSR N5 (NUD*IST) tool.

3.6.1.2 Tree Diagram

Data nodes were created in what Strauss and Corbin (1998) call "conceptual ordering". The definitions of the nodes were conceptually described in 'memos'. 'Tree-structured catalogues' of branches of the node tree were built. Tree diagrams allow broader concepts related to organisational learning and knowledge sharing to be gleaned from the interview data. In order to develop the meanings of text units, a whole paragraph of contexts was coded, based on the definitions of the nodes. All coding used 'line-by-line' analysis, which Strauss and Corbin (1998) also call 'microanalysis'.

3.6.1.3 Analytical Coding

The procedure for data analysis and interpretation followed Strauss and Corbin (1998): conceptual ordering (a so-called coding stage) with the creation of elaborate nodes; organisation of relatedness among the qualitative data (verbatim interview transcripts); writing of memos and development of the patterns from nodes; and production of the report.

The nodes were created from interview notes and transcripts by means of line-by-line microanalysis, using the NUD*IST program. The program allows for items of interest in the text to be coded and used to keep track of emerging and developing ideas. The nodes were moved around when they needed to be merged or separated so that each one contained related characteristics. Major inferences were made from the sentences, which were written in 'memos' (a function of NUD*IST).

Memos facilitated the recording of interpretations of the same data at different periods in time; this helped further data analysis by synthesising findings. Memos also described the backgrounds of the respondents, descriptions of context and the author's observations, and other remarks.

3.6.1.4 Analysis and Interpretation

At this stage, the data were examined in an analytic rather than descriptive sense. The data were thought through from all angles, and while interpreting them

plausible underlying meanings were considered. This 'inside out' technique enabled the author to capture meanings from different perspectives. Analyses of the tree diagram were based on comparisons among all the data sources within the relevant nodes.

This process was integrated with theoretical knowledge from the literature review. Strauss and Corbin (1998) recommend this approach only for the extension of the existing theory: this exploratory study aimed to build upon existing groundwork in the KM literature.

3.6.1.5 To Conclude

While many elements of the theory of KM in Figure 3.1 can be identified in the literature, the overall model was generated and broadly refined in this exploratory qualitative study, and tailored to knowledge management practices in the hospitality industry.

3.6.2 THE QUANTITATIVE STUDY

The questionnaire data were entered and analysed with SPSS (version 11.5 for Windows). Data screening and descriptive statistics were first produced to give an overview of the data file; for example to detect missing values and outliers. Reliability analysis, correlation, factor analysis, t-tests, analysis of variance and multiple regressions were used to test the research hypotheses, and descriptive statistics to summarise answers to the exploratory questions listed in Section 3.2.

Hypothesis tests were assessed according to both statistical significance and practical significance, which focuses on assessing the size of the difference in means or of correlations or beta coefficients. According to Hair, Anderson, Tatham and Black (1995), "while statistical significance determines whether the result is attributable to chance, practical significance assesses whether the result is useful (i.e., substantial enough to warrant action)" (p. 2). They also state that "large sample sizes ... make the statistical tests overly sensitive" (p. 22). That is, hypotheses can be statistically acceptable but practically of little significance in terms of variance explained. The statistical significance level in this study was set at $\alpha = 0.05$.

Missing data were examined in two ways. First, because some missing data was caused by errors of data entry, all of the missing data cases were re-examined. Second, preventive remedies for dealing with missing data caused by the questionnaire design were undertaken, as discussed in Section 3.4.2.2.

3.6.2.1 Exploratory Data Analysis Techniques

Descriptive statistics used include mean and standard deviation. Cross-tabulation tables were used to compare two nominal variables.

3.6.2.2 Correlation

Correlation analysis was used to test hypotheses concerning relationships between two or more variables. Assumptions of normality and linearity were examined before testing variables (Churchill, 1991). Pearson's r was then calculated to find magnitude of the relationship and its statistical significance.

3.6.2.3 Comparison of Means

Three techniques were used for testing hypotheses concerning means: paired sample t-tests, independent sample t-tests and analysis of variance (ANOVA). An assumption of 'normality' was met in all cases before proceeding with these tests.

Paired sample t-tests were applied to examine the difference between means from two sets of scores randomly drawn from the same group of respondents (Hair et al., 1995). For example, this technique was used for testing the hypothesis that the contents of sharing (i.e. strategic and operational knowledge) vary in two different levels (management and front-line) in the organisational hierarchy.

Independent group t-tests were utilised to explore whether two unrelated groups of respondents or scores had different means. An important prerequisite of this test and ANOVA is that variance between the groups is homogeneous. A Levene's test result greater than 0.05 means that groups are drawn from a population with equal variance. An example of the use of independent group t-tests is testing the hypothesis that female employees have more favourable attitudes to sharing than males.

ANOVA uses the ratio of between-group variances to within-group variance (Cooper & Schindler, 1998). Post-hoc analyses with Scheffé tests allowed multiple comparisons for significant differences among subgroup means. The Scheffé method is more conservative than Tukey's HSD, Fisher's least significant different test and Student-Newman-Keuls procedure (Ott, 1993). An example of the use of ANOVA and Scheffé tests is the hypothesis that older employees have more favourable attitudes to sharing than other groups.

3.6.2.4 Factor Analysis

Factor analysis (FA) is used for identifying factors, variables that summarise the interrelationships among variables and show the commonalities underlying each factor (Hair et al., 1995). Here, FA was used to explore the structure of constructs.

Before proceeding with FA, assumptions of normality, linearity and freedom of/from outliers were tested. According to Hair et al. (1995), factorability assumes: Bartlett's test of sphericity is significant; variables with a Measure of Sampling Adequacy (MSA) are above the 0.5 level; the eigenvalue is greater than 1; and the scores on the correlation matrix are greater than 0.3.

The "Principal Axis Factoring" method was used for determining the number of factors with which to explain the variance. The Varimax method of orthogonal rotation was used when the factors were theoretically uncorrelated and the Direct Oblique method when the factors were correlated.

After the factor structure was determined, the internal consistency of variables in each factor was examined with Cronbach's coefficient alpha, as noted above.

3.6.2.5 Multiple Regressions

Multiple regression was used when hypotheses described the relationship between a dependent (criterion) variable and several independent (predictor) variables, all based on a metric measurement scale.

The number of cases limits the number of independent variables in the regression model. According to Coakes and Steed (2001), "for standard or

hierarchical regression you should ideally have twenty times more cases than predictors, ... The minimum requirement is to have at least five times more cases than independent variables" (p.167). This requirement was met here.

An example of the use of regression is the hypothesis that knowledge sharing and organisational learning positively influence organisational effectiveness.

Multiple regression can also be applied to identifying some moderating variables, which would significantly influence the original independent-dependent variable relationship (Cohen & Cohen, 1983; Aiken & West, 1991). In a two-predictor regression equation, statistically speaking, an independent variable does not significantly contribute to the dependent variable, but there is the presence of an interaction between two predictor variables. Thus, the independent variable becomes a moderating variable. This study would investigate regression equations that predict how organisational culture and/or leadership styles moderate effects between individual behaviour and knowledge sharing.

3.7 SUMMARY

The concept of 'knowledge management' behind this research involves a process of making individual tacit knowledge explicit, sharing it, incorporating it into organisational memory, and ensuring employees use such organisational knowledge. This thesis involved building and testing a specific theory of KM (Figure 3.1) based on the literature and a grounded-theory exploratory study. This theory focuses firstly on the extent to which individuals' attitudes to learning, sharing and storing influence knowledge sharing; secondly on the extent to which organisational collaborative culture and leadership roles aid or hinder knowledge sharing; and thirdly on the extent to which knowledge sharing contributes to organisational learning and effectiveness.

The research design involved generating and testing this theory. The population was employees of international tourist hotels in Taiwan having global management and franchise of a well-known hotel name. Data were collected in semi-structured

interviews for the exploratory study and by questionnaire survey for the main quantitative study. The research instruments in the latter were drawn from previous studies in most cases and self-developed from the literature and exploratory study in a few cases. The exploratory study was analysed with a grounded theory approach. In the main quantitative study, hypothesised relationships were tested with inferential statistics and the exploratory questions were answered with descriptive statistics.

CHAPTER FOUR: RESULTS AND ANALYSIS OF THE PILOT STUDY

4.1 INTRODUCTION

This chapter[1] describes findings and conclusions from the exploratory study. This study aimed to develop the research questions and hypotheses and assist design of the instrument for the main study reported in the following chapters.

4.2 PRELIMINARY OUTCOMES

This section mainly focuses on describing the background of each researched company. Of the respondents, 35 employees from four international tourist hotels participated in the semi-structured interviews. Of the interviews, 19 were female respondents and 16 were male. The number of the respondents from top, middle and front-line levels in organisational hierarchy were 7, 16 and 12 persons respectively.

4.2.1 COMPANY A

Company A, an international chain hotel operated under a management contract, has 856 guestrooms and nine restaurants. About 900 full-time employees serve Company A's customers.

Interviewee responses with regard to approaches to *sharing* knowledge included the use of training techniques (such as case study, workshops, brainstorming sessions, seminars, role plays, video presentations and organised training sessions), meetings, inter-shift briefings, some written materials (such as logbooks, Monthly HR Update), chats (i.e. conversation, dialogues), electronic devices (such as intranet and e-mail), and social activities (such as outings).

With regard to the content of knowledge acquisition, all of the interviewees responded that they collect knowledge related to the job. For example, a sales

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[1] Some sections of this chapter were published in Yang (2004a, 2004b) and Yang and Wan (2004).

manager mentioned acquiring information about competitors' and customers' movement from sales calls. Knowledge was *collected* through various means: Internet, social activities, attending training sessions, consultations, and inter-shift briefings. Such social interactions could involve talking with friends, social conversation, sales calls, and gatherings of employees working in similar departments in different hotels, e.g. hotel general managers, front office managers and human resources managers.

In a decentralised organisational structure, based on employee responsibility and accountability, the majority of interviewees believed that learning would build up their competencies, and knowledge gained would become theirs forever. Organisational routines such as standard operational procedures were reviewed and altered regularly; this helped provide needed and up-to-date product offerings to customers. The data showed occurrences of 'feedback', 'think-rethink', 'reflection', and 'change' phases of organisational learning. These features form quite strong evidence of organisational learning practices.

However, these routines seemed to be focused on certain level of employees, particularly top and middle management. Factors inhibiting knowledge acquisition were described by half the interviewees, including: the need for user ID to control the electronic devices; lack of definition of the scope of knowledge acquisition; the limitation of time available for learning and acquiring knowledge; some employees' reluctance to learn and use knowledge; and employees' capabilities for acquiring knowledge.

Two major categories of knowledge repository used by Company A were written documentation (such as the logbook of guests' comments, SOPs, a departmental 'bible', and sales reports), and electronic media (such as the Hotel Intranet Server, Lotus Notes, and Deliph).

4.2.2 COMPANY B

Company B is a locally-operated hotel with a franchise contract of a famous international hotel name. This property is equipped with 538 guestrooms and ten food and beverage outlets and about 800 full-time staff members provide guest

services.

The data showed that common approaches to *sharing* knowledge included use of training techniques (such as case studies, symposia, lectures, team discussions and organised training sessions), meetings, inter-shift briefings, some written materials (such as logbooks, memos and situational 'bibles'), conversation and dialogues, and social activities (such as outings).

Regarding the content of *acquiring* knowledge, all of the interviewees sought to acquire job-related knowledge. Interviewees usually employed the following approaches to acquiring knowledge: learning by doing, written and printed materials (such as departmental logbooks or situational 'bibles', paper-cutting, magazines, newspapers), internet, social activities (such as talking with friends and colleagues, attending industrial association gatherings), and education and training programs (such as training sessions, hiring professionals of consulting companies, observations of competitor and other hotel chain operations). The majority of front-line and middle-level interviewees (five out of seven) normally collected information and knowledge from their friends who worked in the hotel industry.

The data clearly showed that common understanding of the organisational learning concept had *not* been thoroughly nurtured in this workplace. Two interviewees reinforced the fact that they would leverage and apply what they had acquired and learned to the routines. However, three other employees mentioned that reluctance to share occurs when shared ideas might involve changing the daily operations. Moreover, a senior manager said, *employees wait for instruction instead of looking for resources actively*. All of these evidences imply that knowledge acquisition and organisational learning were not included in employees' job descriptions or organisational routines. Specific obstacles to sharing reported were: the hoarding attitude of senior staff, lack of knowledge acquiring skills, and inability to see the whole set of standard operational procedures (SOPs) (further discussed in the latter section 4.3.1.3.1) The interviewees also regularly reported a lack of time for staff to update information and knowledge.

Most information was stored in files, and a staff member was assigned as responsible for filing.

4.2.3 COMPANY C

Company C, an internationally-operated chain hotel with a management contract, provides 422 guestrooms and nine restaurants. About 650 full-time employees serve Company C's customers.

Interviewees described knowledge sharing as concerned with job-related information, such as mistakes and experience. Three out of four respondents focused on operational knowledge and the products of other companies. Some techniques for *sharing* were: quarterly staff newsletters, circulation of memos, written reports, attending conferences, training sessions and meetings and social activities, and skills campaigns.

Ways of *acquiring* knowledge reported were: interaction with corporate clients during sales calls; reading books and newspapers and contributions from headquarters and other chain hotels; HR practitioners monthly meeting; the internet; training programs; and inviting outsider speakers to develop skills and concepts. All interviewees read books and newspapers to collect job-related information and knowledge, such as society and industry trends, and used the Internet to navigate relevant websites.

One useful knowledge acquisition method in company C was that after returning from training sessions participants were bound to reflect on their learning by providing written reports and oral presentation to an executive meeting. In addition, all training materials, such as videos, tapes and reading materials, had to be submitted to the company. Despite these good practices, operational managers revealed that they did not have time for knowledge acquisition. In contrast, managers in back offices such as information technology, marketing and human resource departments reported searching for knowledge was part of their daily routines and duties.

An internal KM network had not yet been set up in Company C. An IS manager said that not all staff had a basic understanding of computers. If these people were asked to enter their experience into computers, perhaps there would be a great deal of difficulty. Presently, most organisational knowledge was stored in files, SOPs, and a database in the company's Fidelio system.

4.2.4 COMPANY D

Company D, an internationally-operated chain hotel with a franchise contract, provides 288 guestrooms and five restaurants. About 400 full-time employees serve Company D's customers.

Interviewees reported mutually sharing professional knowledge and skills related to work. The main approaches to *sharing* were case studies, circulation of memos, training courses, conferences, meetings, coffee-time discussions, outings and conversations.

Those who worked in the front office sought information and knowledge required by guests; they attempted to continuously update their guest information database. Approaches to *acquiring* knowledge described by interviewees included chats with friends within the hotel industry; observation on the streets; searching the Internet; and reading relevant magazines. Many interviewees obtained knowledge from the Internet.

Company D's knowledge was most often retained in documentation, although some was held a database in the hotel's information system. A particular staff member was assigned responsibility for updating the database. An intranet had not yet been established.

4.3 RESULTS AND ANALYSIS

The data analysis of the pilot study used the NUD*IST software program. All data 'nodes' were created. Tree structured catalogues for branches of the node tree were discovered and built. The tree diagram shows that information about

knowledge sharing, acquisition and retention, organisational learning and organisational culture were gleaned from the interviews. The first three layers of the tree (finalised) are illustrated in Figure 4.1.

In light of the tree diagram (Figure 4.1), this section contains results and analysis of the practices of knowledge sharing, knowledge acquisition, individual learning, organisational learning, organisational culture and knowledge storing.

4.3.1 KNOWLEDGE SHARING

4.3.1.1 Content of the Sharing

All interviewees believed sharing job-related knowledge and experience was important. They indicated that the content of knowledge sharing focused on operational knowledge, specifically customer-related knowledge, rather than strategic knowledge. Interviewees frequently mentioned the following types of operational knowledge: *customer-related knowledge, product knowledge, guests' complaints, problem-solving,* and *situation-dealing.* The responses also clearly showed that junior staff often shared their product knowledge, customer-related knowledge and 'gossip', while management staff emphasised sharing knowledge of the external environment.
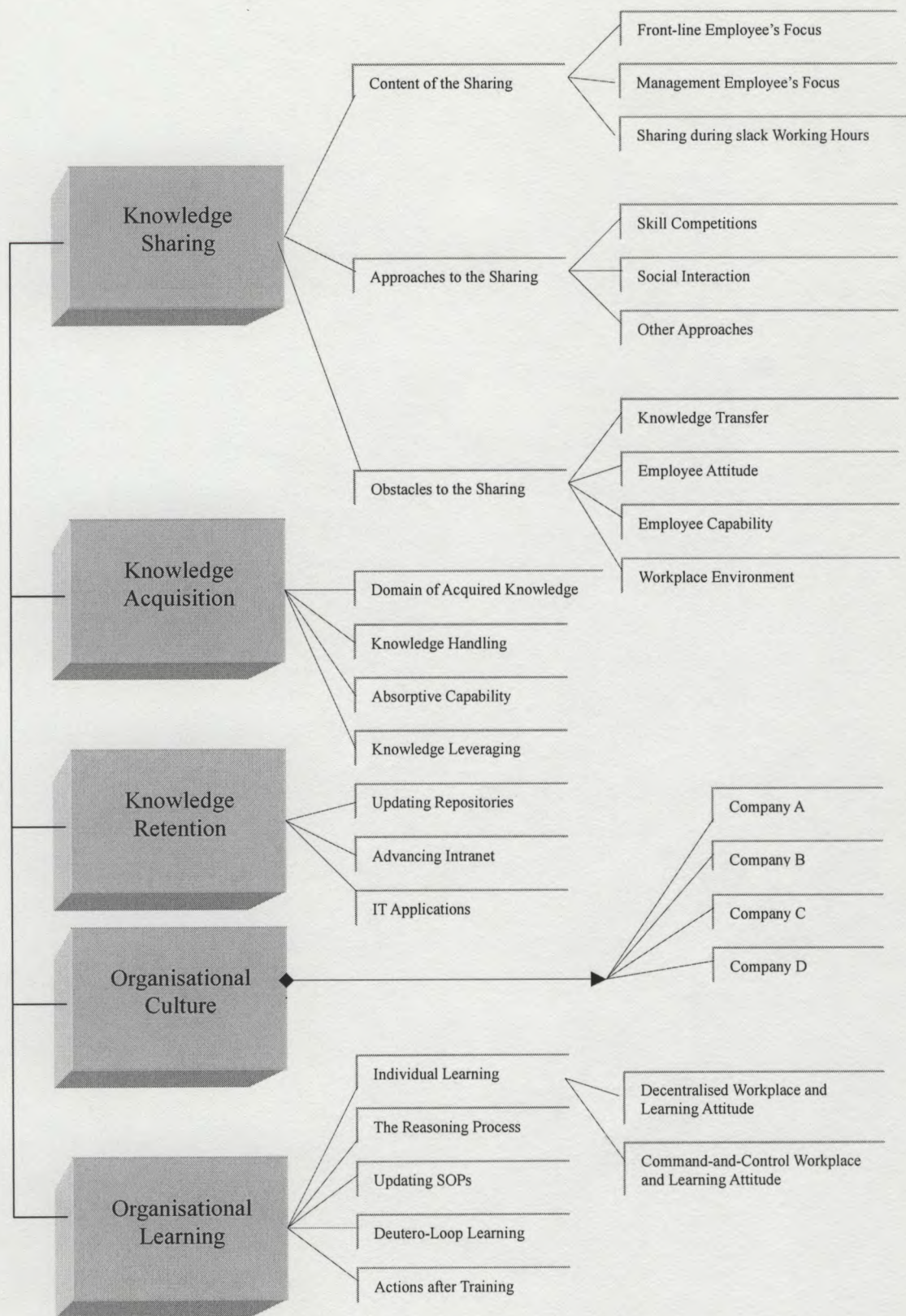
Figure 4.1 The Tree Diagram

Knowledge Sharing
- Content of the Sharing
  - Front-line Employee's Focus
  - Management Employee's Focus
  - Sharing during slack Working Hours
- Approaches to the Sharing
  - Skill Competitions
  - Social Interaction
  - Other Approaches
- Obstacles to the Sharing
  - Knowledge Transfer
  - Employee Attitude
  - Employee Capability
  - Workplace Environment

Knowledge Acquisition
- Domain of Acquired Knowledge
- Knowledge Handling
- Absorptive Capability
- Knowledge Leveraging

Knowledge Retention
- Updating Repositories
- Advancing Intranet
- IT Applications

Organisational Culture
- Company A
- Company B
- Company C
- Company D

Organisational Learning
- Individual Learning
  - Decentralised Workplace and Learning Attitude
  - Command-and-Control Workplace and Learning Attitude
- The Reasoning Process
- Updating SOPs
- Deutero-Loop Learning
- Actions after Training

4.3.1.1.1 Focus of front-line employee knowledge

All front-line interviewees in Company A focused on guest-related information (such as achievements with problem guests, complaints, knowledge of products for sale, and special requests and cases). Three were also concerned to share operational skills, complaint handling knowledge and problem solving skills. For example, a front-line staff member said,

> complaint handling is most necessary to me. After all, superiors have been management staff for a long time, so they certainly have accumulated a lot of experience to be shared with others. And the way they handle cases can be our role models.

In Company B, a small number of interviewees mentioned the fact that the rank-and-file staff members usually shared working experience. The majority of interviewees said that front line employees talked (gossiped) more about personal matters including those of both guests and staff.

4.3.1.1.2 Focus of management knowledge

About 80% of management staff in the four companies preferred to share with managerial colleagues knowledge connected with the external environment, including competitors' movements and customer-related knowledge. The others focused more on operational routines. As one front-line staff member in Company B said

> superiors mainly shared their knowledge and opinions when they heard some staff talk about complaints and found that their viewpoints were incorrect and dealing techniques were not proper.

This point was echoed by two other interviewees on the same level in Company B. Similarly a middle-level manager in Company C said

> the manager [his supervisor] shares with us some of his successful experience and practices. But this has not been really followed (at present, this is only a thought and a plan).

The failure to encourage sharing might be due to Company C lacking a climate conducive to sharing knowledge, based on trust amongst employees, collaboration and accountability for sharing. Possibly, the organisation had not emphasised sharing across the organisation. The factors inhibiting sharing need to be identified and addressed.

4.3.1.1.3 Sharing during slack working time

During slack times, a few (3/30) interviewees would share knowledge and discuss job-related issues with colleagues. A supervisor in Company D reported

I will share the things which are required for completing the job and/or enhancing the quality of services, such as what they need to know further or what problems we often meet in our daily life.

However, the majority of interviewees would chat socially. Five interviewees of Company A said that most staff chatted about personal matters, specific superiors' leadership style and guests' attitude. There was a similar finding in Company B and Company D. A senior manager indicated that staff usually liked to gossip and seldom shared their experience unless they were training new staff members. As she said,

some people like to broadcast colleagues' and guests' personal matters. But most of them like to 'gossip' about unusual matters. Also, they sometimes mentioned guests' attitudes and guests' complaints; but they normally treated these issues as stories. They seldom saw these as case studies.

More than half the interviewees mentioned 'gossip' during slack times. The important point to be made here is that if this gossip includes information valuable to the companies and staff do not deal with it and follow it up, the company loses knowledge of potential use for competitive advantage.

Interestingly, most employees did not report using slack time to share. Theoretically at least, slack time provides an opportunity for staff to share. If these skilful, experienced and knowledgeable employees do not share when off-duty, customer service quality could suffer. Moreover, when the employees leave the company, a loss of knowledge occurs.

4.3.1.2 Approaches to Sharing

The results showed that the most common techniques for knowledge sharing were: inter-shift briefings and departmental meetings, training sessions (using case studies, workshops, brainstorming sessions, seminars, role plays, video presentations and organised training sessions), reading written materials (such as

logbooks, newsletters and SOPs), conversation, electronic devices (such as intranet and e-mail), and social activities (such as outings).

A senior manager strongly believed that sharing through workshops and case studies had greater effect than that from 'group lectures', as the former were more interactive. This was echoed by the majority of interviewees.

4.3.1.2.1 Skill Competitions

In Company C, a majority of employees mentioned social activities and skill competitions as the best approaches to sharing, since these were more interactive. Sharing information, knowledge and experience could be achieved through positive competition amongst staff. For example,

> *"Moment of Delight" is an activity provided to all staff. Employees are invited to raise any special experience or new discoveries in a written form. All of these are scored and selected for presenting in the Monthly Staff Meeting.*

In another example, more suitable to basic level staff,

> *"Skill Competitions" are held every month in every department to offer employees opportunities to learn new knowledge and experience interchange; more specifically, one team gives an introduction to the wine of an English region. Another team has to give an introduction to the wine of a French region. Let the two teams have a small competition in their minds.*

4.3.1.2.2 Social Interaction

Significantly, the majority of interviewees preferred interactive approaches rather than formal meetings for sharing knowledge. Many emphasised that sharing should take place spontaneously, no matter whether formal or informally initiated.

A top-level manager in Company A reported coffee time facilitated exchange of information and experience. This was echoed by a senior front-line staff member who saw social interactions as strengthening mutual sharing of information and experience. A mid-level manager added that sharing should happen spontaneously; this was clearly preferred in all four companies. Two supervisors from Company D claimed that regardless of whether knowledge and

experience were exchanged during gatherings, participants would benefit from cultivating mutual understanding and building relationships.

A critical issue here is arranging social activities for the purpose of sharing. Most interviewees agreed that staff could absorb more information in informal circumstances when they were relaxed and away from immediate pressure. However, about sixty percent, especially supervisors and front line employees, found that sharing knowledge in such activities would spoil pleasure; they just wanted an enjoyable time and to strengthen relationships. The point of these activities was to enable staff to feel open in discussing job-related matters during working hours. Overall, it is a challenge to balance these tendencies if a sharing culture is to be nurtured.

4.3.1.2.3 Other approaches

The HR department of Company A normally provided a monthly speaker from amongst senior managers to share their thoughts and experiences; this would be played on TV screens located near employees' access doors and posted on bulletins. A middle-level manager, who was proud of his company's decentralised organisational culture, reported that the company sometimes arranged opportunities for brainstorming policy and decision-making. A similar arrangement was also organised by Company C.

In Company B, a situational 'bible' was available for front office staff. This recorded important events in the hotel, including guests' praises, and complaints and their settlement. It seems that this bible is quite different from a SOPs document, and provided organisational knowledge as a powerful guide for handling future situations. This is also good practice for individual learning: in recording situations in the 'bible', individuals might reflect on what happened and learn how to deal with future situations.

A manager in Company D reported:

> *While some people are quieter, you have to ask them questions to get their responses. ... Some people are rather outgoing. They might make use of some group activities. From the activities, they can exchange their thinking.*

Different approaches were needed for different people due to their diversity. Thus coaching in knowledge sharing involves a multi-facetted approach rather than a 'one-size-fits-all' attitude.

4.3.1.3 Impediments to the Sharing

The interviews showed that major obstacles to sharing in the researched companies were: difficulties in expressing tacit knowledge such as working experience; lack of skills for sharing; willingness to only partially share knowledge, or to share with selected people; negative attitudes amongst sharers and sharees; unsupportive management philosophy and problems in the work environment. Less frequently mentioned factors were: the shortage of time; lack of intimacy or friendship with colleagues; and difficulties in sharing due to others' personality, age or seniority. These impediments may cause companies to lose potential knowledge for competitive advantage. The impediments were sorted into four categories: knowledge transfer, attitude, capability, and work environment.

4.3.1.3.1 Knowledge Transfer

Three different concerns were reported. First, two managers reported that past experience was not be workable in the current environment because of greater diversity of people and different conditions. Dealing with current problems requires people to understand the present business environment.

Second, in all researched companies partial sharing of knowledge, and sharing only with selected people was reported. Twelve out of thirty five interviewees said they would selectively share knowledge and experience with colleagues because not everyone has the same needs, interests and feeling. The willingness of sharees to receive feedback was also a problem. For example, a middle-level manager reported, *I will not waste their* [sharees] *time since they might not be interested in these things.*

In Company B, a mid-level manager indicated that while top managers use executive morning briefings for sharing, departmental briefings and inter-shift briefings were never properly or effectively used for sharing knowledge. A further

issue is how much of the executive sharing is transferred to employees after an executive briefing.

With regard to the amount of information given by superiors, a front-line employee had worked in two sub-departments of her hotel: a head of one department always shared the full circumstances of a case at once, while another head just shared part of a similar case even though it equally involved daily operations. She concluded that

> most employees preferred to work with the former manager and share their experience and job-related knowledge with others in the former department because they felt more confident to handle the case and more important to the department.

About half the management staff believed that while experience can be shared, it would not necessarily result in future success. A related response from a front-line employee was that, *basically situations related to experience vary case by case. You will never know how to deal with it until you touch* [experience] *it.* Thus, tacit knowledge which could be shared was not seen to benefit other employees. Possibly, some such knowledge was too difficult to express in words, or not seen as relevant by colleagues. This supports Snowden's (2002) proposition that "we only know what we know when we need to know it" (p.102). On the other hand, staff might lack confidence if they do not receive knowledge, and while knowledge might not be easily conveyed, managers need to learn how to share experiences through coaching and discussion.

4.3.1.3.2 Attitude

Hoarding knowledge was a feature of Company A. For example, a middle manager reported, *they* [my colleagues] *never ask me anything; why do I need to share with them? If they ask, I am willing to tell them all I know.* Knowledge sharing needs to come from those who are volunteers as well as from those who are invited to share. An issue here is how to stimulate employees to actively share without being asked. Corporate culture and personality might be factors in this. As a front line employee reported, *if you were not an acquaintance, I would not talk with you in such depth*: willingness to share depends on intimacy amongst employees. Those who are reticent and introverted, working silently and

independently, do not readily share with others.

Interestingly, one mid-level manager noted that

the hoarding attitude is more obvious with age. The young people who just enter the workplace and graduate from schools have more learning motivation and talk directly about what they want to say without hesitation. These people are willing to change.

If these older, experienced employees do not transfer their knowledge, this could be a significant loss of organisational assets. They bring a range of backgrounds, competencies, knowledge, and personal learning and sharing styles, which management should evaluate to provide appropriate opportunities for them to share their competencies.

Three out of ten interviewees in Company B mentioned that reluctance to share occurs when shared ideas might involve changing the daily operations; for example,

some suggestions create changes to the work procedures. And then ... colleagues would feel uncomfortable with the new way.

This avoidance attitude needs to be removed; otherwise there is no generating of new knowledge, consequently, no organisational learning. Moreover, this leads to another factor of concern, which is that sharers stop sharing because of frustration.

One manager in Company C revealed a limitation to sharing in that

Since the newly employed high-rank staff are eager to show off, they must demonstrate their skills/ideas to promote their merits and expertise. ... When they do this, the people under them might not have learned.

A supervisor in Company B made a similar point. Such 'show-offs' might need to be managed, as opportunities for them to share successful encounters are important and changing individual personality is a difficult job. Managers need to arrange sharing opportunities such that sharers discuss achievements and receive appropriate praise from others without putting off sharees.

Employees were often seen to prefer ignorance to knowledge. Seven out of

twelve Company A interviewees believed people wanted to forget and ignore messages upon hearing them and did not want to learn anything from sharers. Further, listening to information does not mean that people learn and apply it. In Company B, some staff disdained junior employees and sometimes ignored their opinions. A senior front-line staff member said, *if you talk to the supervisor, the other colleagues would think you have worked only for a half a year and your opinions are nothing.* What is needed is for employees to be coached in knowledge sharing processes. Only through the reflective discovering and sharing can knowledge be refined.

A few managers had a myopic view of their operations, focused on their own departmental effectiveness, rather than the company as a whole. As one said, *some managers just consider their departments' performance, rather than see the company as a whole, when they make decisions.*

Another impediment to organisational effectiveness was revealed in Company B: a middle-level manager and a front-line employee both reported that some supervisors were afraid that their subordinates would be promoted faster than they would, so that they usually only partially shared knowledge.

4.3.1.3.3 Capability

Two respondents mentioned that senior staff lack capability for dealing with routines. One, a senior manager, reported that

> due to the rapid growth in hotel business in the past few years and hence the faster pace of the employee promotion, the foundation skills and knowledge of some middle-level staff are not sufficient. So, should we expect that they would become capable when they are promoted to high-level staff?

Three out of four interviewees in the rank-and-file level of Company B did not know how to share. This finding was reinforced by a senior manager: *we have to train employees in a 'how to share' technique and how to transfer their knowledge before we ask them to do it.*

Sharees' capabilities, in terms of absorption, application and retention of new

knowledge, also clearly affected sharing and job performance:

> *experience is absolutely one thing that can be successfully shared, transferred and transmitted. But whether other people can do things well, it depends on that person's abilities.*

4.3.1.3.4 Work environment

Three factors in the work environment that inhibited effective knowledge sharing were mentioned. Firstly, no motivation programs or rewards were offered for encouraging sharing knowledge. Second, lack of *mutual* sharing amongst individual groups was a concern. For instance, to one manager *some people only absorb knowledge and experience of other people and do not have any output in turn.* Third, some managers might overlook employees' competencies, as one front-line employee reported,

> *some of our superiors keep a certain distance from us since they believe that when they make decisions of judgment, they should not be influenced by personal factors.*

The hotel business is a people-focused industry, and managers need to consider whether employees are willing to communicate with superiors, whether trust is established between superiors and subordinates, and whether the management philosophy presents an effective approach to achieving team cohesion. These considerations suggest tackling the tendency to only partially share knowledge, the lack of mutual sharing and managers' overlooking of employees' competencies. All of these issues involve developing trust.

In Company B, one senior manager reported that *our company does not focus on the sharing of experience and knowledge,* and a majority of managers found there was no time for sharing. A company should obtain commitment of top management to sharing knowledge for improving organisational performance. Managers need to be aware that knowledge sharing involves much more than training programs.

Some (four out of ten) of Company B's interviewees raised the issue that sharees did not always really need the knowledge being offered. A senior manager reported, *employees do whatever their superiors tell them to do.*

Two supervisors in Company D similarly reported that employees waited for superior's instructions instead of actively looking for resources. This is an issue of management philosophy and organisational culture.

One manager proposed that *the sharing of experience and knowledge is workable only if this job might become a part of their job description.* However, in today's business operations solving customers' problems and attending to their requests are vital and employees' competencies in dealing with these through sharing knowledge need to be maximised. A company that excludes sharing unless it is in a job description may not survive over a long period. Employees need to share as volunteers, not conscripts (Snowden, 2002). The idea of encapsulating sharing into a job description appears contradictory.

Four out of seven interviewees in Company D mentioned lack of trust as a fatal issue in sharing; for example,

> *If you will not get close to your staff, you will not get their trust. Therefore, between you and your staff, there will only exist a relationship between superiors and subordinates. I feel that 'to understand the staff' is more important because the character of every staff member is different.* (A middle-level manager)

> *If a staff member does not trust a person, s/he is not willing to communicate with you.* (Supervisor A)

> *Once I do not trust you, I will not tell you something exactly. It also relates to the intimacy of friendship.* (Supervisor B)

The greater the level of trust amongst individuals, the more open and effective the organisations' communication channels, creating dialogue and knowledge interflow.

4.3.2 KNOWLEDGE ACQUISITION

Effective knowledge acquisition was found to depend on its scope, managerial attitudes to leveraging collected knowledge, the absorptive and retentive capabilities of employees, the support offered by organisational culture and management, and a resistance to change resulting from new knowledge.

4.3.2.1 Defining the Scope of Acquired Knowledge

A company should give employees directions as to the sort of knowledge they need to acquire to achieve organisational goals, and to furthermore strengthen its competitive advantage. Two supervisors from Company D mentioned that when they were rank-and-file staff, they did not know what sort of information was required for the job because their superiors never talked about matters of acquiring and sharing knowledge. After they became seniors and team leaders, they realised the importance of acquiring practices.

It seems that if the domain of collecting knowledge is identified for staff, potential opportunity costs such as time wasted searching for unnecessary knowledge and negative psychological effects on staff would be reduced. This is exemplified by a senior manager:

> *I shall briefly explain to idea-providers what things our company can cooperate in and what things we cannot. Otherwise, putting their ideas aside will make them feel not respected. In fact, our staff do not get in touch with much information. They also do not know what things can be done or cannot be done.*

If the dimensions of required knowledge are defined, important knowledge is acquired and unimportant or irrelevant knowledge is ignored.

4.3.2.2 Knowledge Handling

The interviews highlighted the importance of leveraging knowledge after its collection. One manager mentioned that knowledge from training programs arranged by headquarters was eagerly sought and used: *if you have any suggestions, the management level of the company is glad to accept your experience ... and put it into action.* This knowledge would be leveraged into existing operations.

On the other hand, this manager reported that when ideas were proposed the use of these ideas depended on the managers' authority, such as whether s/he could make decisions straight away and revise standard operation procedures. If changes involved coordination with other departments, a powerful manager would actively work on it where a less powerful one would not, creating 'orphan knowledge'. This 'position power' was also mentioned by a supervisor in

Company D.

4.3.2.3 Employee's Absorptive Capability

A manager of Company C claimed that the application of knowledge depended on an employees' absorptive capability, including their level of understanding of the knowledge. Another manager who collected knowledge from industry association gatherings believed that

> *the different solutions of different hotels when confronted with problems, and the ways of problem-tackling adopted by various hotel managers might not be appropriate or workable.*

This may be true, but perhaps if he shared this knowledge with colleagues, the effect might be different from what he had perceived. His view may reveal limitations in his own absorptive capability.

A supervisor of Company D reported that after collecting information and knowledge

> *I can make a comparison and find out the dissimilarities, furthermore, figure out the most suitable methods to do things. ... After the comparison, some possible situations and problems* [of the existing operational systems] *are revealed ...*

This supervisor showed the absorptive skills of critical thinking and improving dysfunctional procedures. Another supervisor similarly showed a useful ability to reason

> *if I have a better concept, I would mention it to my colleagues first. If all of them agree with my ideas, then I would propose it to my superior. ... When we propose any changes in operational procedures, we normally explain to our superiors why the changes should be made and what things will look like in the future.*

This means that new operational knowledge could be created through transferring and leveraging ideas.

4.3.2.4 The Practice of Knowledge Leveraging

Employees should be persuaded to leverage what they had learned to their work on their return. In Company D, a middle-level manager said,

> *I was not requested to write any report and give verbal representation upon my return from the training. ... I need not take any further*

action. ... I did not positively mention anything about the contents of
the course. Perhaps this was the culture of the company.

This unsound practical system of applying acquired knowledge should be a concern. In effect, providing the training programs for employees should not only enrich their competencies, but also enable them to apply what they learn from the programs to the company. This leads both the individuals and organisation to future success.

In Company C, a personnel and training manager said,

basically the top management of the hotel itself has to enforce ... the
application of what we learned in training sessions. This is an
important point. The other point is to see the attitude of a supervisor
himself. If you [the supervisor] *are sure that it* [lack of application of
knowledge] *is really a problem, then you will act on it.*

Two other mid-level managers in Company C made similar comments.

Thus, a company needs to ensure trainees review and update their organisational routines for further organisational advancement. In reality, it seems that some employees do not do this - a structural hole existing in KM.

4.3.3 INDIVIDUAL LEARNING

4.3.3.1 Decentralised Workplace and Learning Attitude

A middle-level manager who was proud of Company A in which he was working in the decentralised organisational culture, said that

HR arranges divisional meetings in which the whole department
collectively figures out ideas that are good for the company's future.
With brainstorming, the whole framework will be constructed.

Also, when a front-line interviewee faced a difficulty in collecting job-related information and knowledge from his superiors, he was still eager to acquire their knowledge. He declared that,

I totally agree with your words, but I am still eager to know how you
and my fellow colleagues handle possible situations in order to make
preparation for some different visions. And then, I can collect these
ideas and figure out a better way.

This person believed that every hierarchical level had its own routines and tasks. And if everyone better handled situations within their own domain of

responsibility, it would be a great convenience to others. The effect of this front-line employee's learning attitude would contribute to his own learning. As these individual learning outcomes are integrated into 'brainstorming', the collective organisational learning would be driven.

4.3.3.2 Command-and-Control Workplace and Learning Attitude

In contrast to the attitude of employees in Company A, a human resource manager in Company B reported that *staff do whatever their superiors tell them to do*. This was echoed by other interviewees in Company B, raising the issue of whether the culture encouraged employees to proactively acquire knowledge. One employee reported that some superiors keep a distance between themselves and subordinates. As the hotel business is a people-focused industry, certain consequences of this need to be considered: whether employees in this work climate are willing to communicate with superiors; whether trust is established among superiors and subordinates; and whether the management philosophy is an effective approach towards achieving team cohesion.

At the same time, three responses from Company B showed behaviours conducive to knowledge acquisition. One mid-level supervisor noted

> *I always ask proactively and I never wait until people teach me. When I was a trainee, if my colleagues were busy, I learnt at the side. When someone is free, I ask him/her at once. I think it is the best way to learn.*

Another mid-level manager emphasised the continuous improvement of his competencies through reflection on others' reactions: *I always ask their* [subordinates'] *feedback on my training style and the understanding of what I say.* A third mid-level manager said that when his suggestions were rejected by superiors, they normally offered him reasons. Company B should spread these attitudes to learning throughout the organisation through its culture.

4.3.4 ORGANISATIONAL LEARNING

4.3.4.1 The Reasoning Process

A front-line employee of Company A used reasoning in convincing superiors to accept new ideas: *I will tell them the reason why I propose it along with my*

analysis in order to obtain their support. Another manager commented

> *all along I encourage them* [his subordinates] *to tell me what things they think should be revised in the current situation. If they think that the existing way is not good, but do not point it out, or just make criticisms behind my back, then how meaningless it is.*

This manager also stated that employees just raise problems without offering any suggestions. This might indicate either a bad attitude or a lack of reasoning capability.

A similar practice of the 'reasoning' application, found in Company D, was that, through dialogue, accompanied by the application of the learning process, knowledge could be transferred and refined. A supervisor said,

> *No matter whether the idea is right or wrong, he* [the manager] *will tell you* [a subordinate] *which part of the idea is correct or which part needs to be corrected.*

The above findings indicate that this reasoning process would enrich individual learning.

4.3.4.2 How often should the SOPs be Updated?

Standard operational procedures (SOPs), according to three staff members of Company A, were not only updated when new ways to do routines were formed, but also reviewed and revised every two years. A supervisor from Company D mentioned that when he heard other staff talk about how their guests behaved, he would especially pay attention to it, and then he would follow it up (such as recording this information in the guest folio of the hotel system). This was a good management practice as customer knowledge (i.e. organisational knowledge) was updated continuously and the employees would provide the right services and correct information to their customers.

However, in Company D, after new operations had been implemented in the routines, a supervisor said, *normally we do not revise the SOPs immediately (not so soon).* A question here is whether or not there is a possibility that new comers would apply old SOPs.

4.3.4.3 Deutero-Loop Learning

Evidence of examination of underlying assumptions or trends is found in a sales manager's report that *a sales person could think over successful or lost cases again in order to make his future negotiation more efficient and successful.* This continuous updating of routines and the think-rethink behaviour would improve employees' abilities to reflect. Applying this to the organisational level, it would be an effective approach to removing defective and obsolete routines and to advancing insufficient individual and organisational competences. This changing process would lead to new levels of thinking and creation of new knowledge.

A senior front-line interviewee of Company B said,

> *if many people make the same mistake, I as a trainer would review the procedures and find out why we make the mistake, and report to my supervisor. If it would affect the morale and efficiency of the whole department, some supervisors maybe discover these situations but some others do not.*

If the supervisors investigate the underlying problems of the mistake and remove them, deutero-loop learning takes place, i.e. the enrichment of organisational competences. For example, one of the middle-level managers suggested that

> *the mistake might be caused by a problem of procedures or policies. I will ask staff whether the procedure is too complicated so they make mistakes and whether they have better ideas to avoid the mistakes.*

The practices of double- and deutero- learning could also be found from three other interviews in Company B and D; for instance, they applied their new learning to the routines and if applicable, change would occur.

4.3.4.4 Action after Training Programs

Five out of twelve interviewees in Company A said that after in-house training sessions, the employees need not make any reports. Two of the interviewees in Company A believed that, *if people just want to hear messages and forget and ignore them immediately after hearing, they would never learn anything from sharers.* A human resource manager of Company B emphasised the importance of reflection and evaluation of training programs:

> *'hearing' does not imply that behaviour can be changed. The learning reports should be sent to the training department because employees will get a deeper impression after they have attended the training programs.*

Indeed, it is not necessary to obtain knowledge and skills from the learning and acquiring process, unless individuals are able to digest and apply them to reality.

As for the case of an employee in Company D who is more aggressive in the sharing practice, one of the supervisors revealed that, after returning from training programs and then leaving the materials in the drawer for his colleagues, he offered opportunities for them to come to ask him about their detailed content. However, according to his experience, just a few people were willing to inquire about the details. He said, *the extent for enthusiasm for these training materials is about 20%. Usually I will brief the basic content to colleagues during the inter-shift briefings.* It seems that these employees are not convinced and have not been motivated to enrich their own competency. Moreover, this might lead one to question whether knowledge sharing and individual learning thoroughly permeates the company. If this does not occur then organisational learning could not proceed.

4.3.5 ORGANISATIONAL CULTURE

4.3.5 .1 Company A

Company A had four important features of an organisational culture conducive to sharing: decentralisation, accountability, mutual interaction, and invisibly shared resources.

Decentralisation was reported by a mid-level manager who said that *the culture in our company has been decentralised; I can speak about what I am sure of to the external customers.* Employees' accountability was emphasised by a senior front-line interviewee who found

> *if we let our staff learn the skills earlier, the burden of supervisors would not be so great. Everyone must have this recognition. Today the workload of everyone is very heavy and we all are so tired. If we can train junior staff as soon as possible and let them work on line earlier, then, we have one more person to share the fixed workload with us.*

Another senior front-line employee reported that *interaction among colleagues of our department is very common. This is related to working atmosphere. ... It is created by the superior.* Such social interactions could be beneficial to sharing of tacit knowledge.

A climate which is mobilised for sharing invisibly exists in a workplace. This could be found from the saying of a middle-level manager, *"what you learn, you have to share with others" is our culture.*

4.3.5.2 Company B

This company's organisational culture is difficult to articulate according to a senior manager:

> *it is difficult to express the company culture concretely. An important issue is that the management style of the top managers has reflection. A company transfers its culture invisibly. The behaviour of the management staff is an example.*

A supervisor revealed that company culture and core value are only mentioned in the orientation classroom. After employees are back to the working station, the superiors never mention them. Organisational culture is socially learned and transmitted by members. The management staff should play a proper role model for their subordinates, in order to enable them to adapt to the unique organisational culture.

A senior human resource director of Company B said, *the culture is difficult to change. ... The staff will adapt to the new environment slowly.* The implication of this for management is that, when the company decides that it wants the sharing of knowledge and continuous learning to exist in the organisation, the managers may need to consider fostering a culture which will be conducive to KM practice, in other words, sweeping away an unhealthy working climate and creating the one which fits it.

With respect to the sharing and learning culture of Company B, the findings are inconclusive and somewhat contradictory. Firstly, some thoughts of senior managers contradicted those of rank-and-file staff members; although many

employees simply did what their superiors told them to do. These employees' learning attitude was passive. Secondly, there was a structure hole or a so-called structure conflict. Despite these findings, interviewed management staff members expected KM practices to help their company to move more perspicaciously, and some interviewed employees found their own way to continuously learn. Increasing commitment of top management, building up trust amongst employees, opening up communication channels, removing unhealthy features of organisational culture, and then setting-up a the KM system could be steps to improve this.

4.3.5.3 Company C

The findings indicate that in the sales and marketing department the sharing and learning culture have already been established. These two tasks are already part of routines. A senior manager said,

> *Working culture is absolutely an important factor of the sharing attitude. ... Basically, we have to share information in work* (in the sales and marketing department). *This is our working environment. We also have modelled this culture. I think that to the fellow colleagues of our department, this sharing of information is no longer a special and additional thing. This 'sharing' has become the working content that we 'must' have.*

4.3.5.4 Company D

Company D's culture focused on leadership style. Trust, openness and a leadership style based on mentoring were important characteristics of a new organisational culture.

First, if there is no trust, there is no communication and then no sharing. One middle-level manager commented on the role of trust:

> *The communication channel is well established. If staff don't trust a person, they are not willing to communicate with you because they think that there will not be any result. When you completely can't get their trust and they think that their communication with you will be ineffective, then they will close all of their communication channels.*

Second, supervisors' behaviours would influence their subordinates' behaviours. A supervisor talked about the fact that,

the sharing climate is ...affected by superior's leadership style. After the current supervisor is on board, his working style influences his subordinates. His management style is quite 'open'. He is willing to hear the voices from various sides and his acceptance is rather high. ...Supervisors of each level in our department are encouraged and influenced to follow this procedure.

As supervisors model practising knowledge sharing and acquisition, there would be a greater opportunity to stimulate their subordinates' reactions to it.

Third, as for the success of nurturing the sharing culture, a leader needs to play a mentor role. Good leaders not only enrich their overall performance and capability but also assist the growth of their subordinates' competency. A manager said,

a supervisor is not merely a hotel proprietor of staff; in fact, s/he is also playing the role of a teacher. S/he has to guide staff to get close to her/him and give her/him comments willingly. S/he can even revise the way of their thinking and managerial behaviours. ...When you are a supervisor of a department, you have to be responsible to lead these staff. Let their thinking be broad, reach your expectations, or reach the level of your common thought. Then it will be easier for you to lead the staff.

4.3.5.5 Summary
When an organisational culture resists a KM plan, companies need to transform it. Some departmental managers in the participating companies had a myopic view of their operations, focused on their own department rather than the company as a whole. This should be changed before setting up a KM system.

4.3.6 KNOWLEDGE STORING
In the four researched companies, traditional forms of storing information formed the primary documentation system: the logbook (recording the guests' comments and complaints), SOPs (recording daily operations' procedures step by step), the situational 'bible' of Company B, the sales report and employee newsletters.

Currently, all of these companies were developing their own intranet system, in order to effectively and efficiently advance the internal communication channels.

'Hotel Intranet Server' transforms the hotel data into websites and enables every department to share the data in the website. [a senior IS coordinator in Company A]

Information should be stored in the internal network, in order to enable employees to easily access it. But, at present, there is no database provided to employees to store their experience and information sharing. [a senior HR manager in Company B]

Company A, C and D requested their staff in the sales department to produce sales reports to remind them of the basic information about clients. This was seen by one interviewee as

very helpful to the expansion of future business, and enables successors to get accustomed to the environment easily and quickly. The technology has advanced to the point that the reports are directly stored in the computer, Delphi system, instead of the written reports.

4.3.6.1 Updating Storages

In Company A, assigned employees regularly reviewed and updated content of the knowledge repositories. There was not significant evidence of this in Company B and Company D. Two interviewees in Company A said,

SOPs will make an immediate correction to it after the directors make the final decision, and then make it as the future policy. [a senior front-line staff]

[Normally] *we revise the service standards in two years and turn all service sequences into written reports.* [a middle manager]

It is important to regularly update organisational knowledge. This enables all employees to always acquire and apply the right organisational knowledge at any time, consequently to maintain the certain level of customer services quality and to develop advanced strategies to cope with uncertain external environment such as competition, suppliers' movement and government policies.

4.3.6.2 Advancing Intranet System

A senior IS coordinator noted his company is attempting to develop a 'user-friendly' system for everyone's use:

In my opinion, not everything has to be taught orally, we can put things you want to share with others in Internet instead. People can look for the answers to their questions on the net. How to organise all the resources, is very important to the experience of sharing.

The user-friendly system might avoid the situation that some individuals ascribe the blame to the computer systems. After all, not all the staff has a basic knowledge of computers. In fact, IS technicians might not know everything in the operational workplace, they should obtain some information from the operational side and then satisfy their requests. After all, the managers know and understand the working content in their departments.

4.3.6.3 IT and IS Applications to Retaining Knowledge

The majority of interviewees who mentioned this issue believed the hotel industry need not include IT in knowledge sharing since many employees were illiterate or lacked computer capability. Moreover, as a people-oriented industry, hotel employees preferred social interaction for sharing.

> *The senior directors' working attitudes and experience are excellent; however, when it comes to hi-tech, we have different language and it seems that the idea of hi-tech is hard for them to accept.* [an assistant manager, Company A]

> *Not all of the staff knows how to use computers.* [an IT manager, Company C]

> [Installing the intranet] *is merely a selective favour to somebody. To most of the other staff, such as housekeepers, dishwashers, etc, it is impossible for them to use the facilities.* [a middle-level manager, Company D]

These findings suggest that time spent on improving the abilities, habits and attitudes of users is much longer than time needed for developing the computer system. However, as companies develop more sophisticated KM, the issue of employee computer competency needs to be addressed.

4.4 SUMMARY

Many interviewees in one hotel showed that after acquiring job-related information and knowledge, they would think about it, reflect on it, provide feedback on what they had learned, and then make changes if applicable. In other companies, the learning attitude of employees was quite passive; they usually waited for instructions for actions, including learning, acquiring new ideas and

sharing knowledge.

In one hotel, a climate favourable to KM seemed to exist on an informal basis. In the others, the climate did not favour KM although some employees acted on their superiors' instructions or used their own approach to learn new things. Some interviewed managers had not seriously taken into account the benefits of the KM practices, and some did not appear to be concerned about the effect of losing individual knowledge even though they had a general belief that KM could help their company.

All of the top managers realised that nurturing a KM climate was important although paradoxically they did not formally foster this culture or tackle factors inhibiting KM. A prerequisite of effective knowledge interflow and storage is to develop an organisational culture where knowledge sharing and acquiring are explicitly encapsulated into each job and to provide required resources such as time, training and a conducive workplace climate. Most managers had not yet taken such steps.

The semi-structured interviews show four major points. First, interviewees agreed on the importance and necessity of acquiring, sharing and storing job-related knowledge. Second, these practices existed informally to a certain extent in these companies, although there were several common factors which inhibited the effectiveness of the KM process. Third, with respect to the content of shared knowledge, there were assumptions among the respondents about what was important to share and there were marked differences among the respondents about what knowledge was most important. It is particularly significant that managers thought differently from the operational staff. Finally, in all participating hotels, 'trust' and 'mutual sharing' were still major issues needing attention. The conclusion of this exploratory study is that organisational culture (including leadership style, collaborative and trusting workplace) and the provision of coordinating vehicles (including social networks, training and development, and information technologies) could directly and positively influence KM practices and contribute to organisational effectiveness.

CHAPTER FIVE: RESULTS

5.1 INTRODUCTION

In the data collection for the main study, of the 1200 questionnaires which were distributed, 546 were returned by mail. Of these 47 were not fully completed and not usable, leaving 499 for the data analyses. The research questions were examined using several statistical procedures: descriptive analysis, factor analysis, t-test, analysis of variance and multi-regression analysis.

The structure of this chapter contains five main sections: analysis of demographic information, reliability analysis, analysis of individual behaviour, outputs of knowledge sharing practices and investigation of hypothesised relationships.

5.2 ANALYSIS OF DEMOGRAPHIC INFORMATION

Table 5.1 summarises the demographic variables. Of the 499 respondents over one-half (57.5%) were female and 42.5 % were male. The range of age groups was from 19 to 60 years old, with a majority from the 26-30 and 31-40 groups (29.1% and 28.5% respectively). Only 2% were aged 51-60.

In terms of work experience, 26.1% had been in the hospitality industry for 1-3 years, and 23.4 % for 5-10 years. Almost half (43.4%) had been in the industry for 3-10 years, a depth of experience that gives added value to this survey.

In relation to organisational hierarchy, the three levels were distributed almost as planned, with top, middle and rank-and-file levels in the ratio 22: 36: 42. These ratios reflect the organizational composition of the population in this industry.

Most respondents (66.6%) had graduated from two-year colleges or four-year universities. Only 2.8 % attained postgraduate qualifications.

TABLE 5.1 Respondents' Background (N = 499)

Characteristics	Frequency (n)	Percent
Gender		
Male	212	42.5
Female	287	57.5
Age (years old)		
19-25	132	26.5
26-30	145	29.1
31-40	142	28.5
41-50	70	14.0
51-60	10	2.0
Tenure in the hospitality industry (years)		
Below 1	38	7.6
1-3	130	26.1
3-5	100	20.0
5-10	117	23.4
10-15	61	12.2
15-20	30	6.0
More than 20	23	4.6
Tenure in the current hotel (years)		
6 months - 1 year	114	22.8
1-3	174	34.9
3-5	82	16.4
5-10	85	17.0
10-15	26	5.2
15-20	9	1.8
More than 20	9	1.8
Department of the current Job		
Room	196	39.3
F & B	209	41.9
Others	94	18.8
Organisational hierarchy		
Top Mgt. level [a]	109	21.8
Middle Mgt. level [b]	180	36.1
Front-line level [c]	210	42.1
Level of education		
PhD/Master	14	2.8
Bachelor	164	32.9
Diploma	168	33.7
High School	143	28.7
Below High School	10	2.0

Notes:

a Top-level staff members include Presents, G.M., Resident Managers, Executive Managers, Departmental Directors/Managers, Assistant Departmental Managers and Consultants.

b Mid-level staff members include Duty Managers, Guest Relation Managers, Outlet managers, Supervisors, Assistant supervisors, Captains, Assistant Captains, Shift Leaders and Head waiters.

c Front line employees include administrative executives, secretaries, assistants, coordinators, senior bartenders, senior doormen, senior receptionists and any other senior positions, management trainees, waiters, cashiers, receptionists, room attendants and front clerks/officers.

Interestingly, the results show that the proportion of female employees decreased with age, while males remained in fairly constant proportions up to age 50 (Table 5.2). There were 95 female respondents aged 26-30 but only 25 aged 41-50. This might be because of the 'labour intensive' nature of the industry and because of the pattern of working hours (such as 24-hour rosters, split shifts and long working time) that impacts on family commitments.

TABLE 5.2 Cross-Tabulation of Age and Gender (N=499)

		Gender	
		Male (n)	Female (n)
Age (years old)	19-25	45	87
	26-30	50	95
	31-40	67	75
	41-50	45	25
	51-60	5	5

Overall the demographic data shows, based on the author's knowledge of the local situation, that the sample reflects fairly well the composition of the workforce in Taiwanese international tourist hotels.

5.3 RELIABILITY ANALYSIS

Cronbach's alpha was calculated to examine reliability: for the entire questionnaire the alpha value was 0.854. According to Sekaran (1984) and Spector (1992) an appropriate level of internal consistency reliability is greater than 0.7, and 0.6 for exploratory studies. Cronbach's alpha values for the individual constructs (see Table 5.1) were mostly higher than 0.7.

TABLE 5.3 Cronbach's Alpha

Constructs	Items	α
Attitude to Sharing	8	.823
Individual Competency	3	.629
Attitude to Learning	5	.867
Attitude to Storing	7	.864
Knowledge Sharing	12	.758
Leadership Roles	16	.784
Organisational Culture	15	.970
Organisational Learning	5	.812
Organisational Effectiveness	5	.900

5.4 INDIVIDUALS' KNOWLEDGE SHARING BEHAVIOURS

5.4.1 ATTITUDE TO SHARING

Exploratory Question 1: What is employees' attitude to knowledge sharing; is it favourable?

5.4.1.1 Willingness to Share

Most respondents (78.2%) were willing to share knowledge with colleagues (subordinates, peers and superiors) without asking (Table 5.4). Only 6.6% indicated they were not willing to share at all.

TABLE 5.4 Willingness to Share (N = 499)

The Degree of Willingness	Frequency (n)	Percent
Disagree [a]	33	6.6
Moderate	76	15.2
Agree [b]	390	78.2

Notes
a This component of the scale contains *strongly disagree, disagree* and *slightly disagree.*
b This scale contains *strongly agree, agree* and *slightly agree.*

5.4.1.2 Reason for Knowledge Sharing

Respondents were asked about the extent to which they and/or their colleagues suffered costly mistakes due to lack of knowledge sharing in a range of areas (Table 5.5). Clearly, knowledge of operational procedures (78.8%) and

knowledge of customers (73.3%) were more crucial than knowledge of information technology (45.7%) or knowledge of competitors (44.1%).

TABLE 5.5 Necessity for Sharing (N = 499)

Types of Knowledge	Scales	Frequency (n)	Percent
Knowledge of information technology	Disagree [a]	160	32.1
	Moderate	111	22.2
	Agree [b]	228	45.7
Knowledge of competitors	Disagree [a]	160	32.1
	Moderate	119	23.8
	Agree [b]	220	44.1
Knowledge of customers	Disagree [a]	64	12.8
	Moderate	69	13.8
	Agree [b]	366	73.3
Knowledge of operational procedures	Disagree [a]	43	8.6
	Moderate	63	12.6
	Agree [b]	393	78.8

Notes

a This component of the scale contains *strongly disagree, disagree* and *slightly disagree.*

b This scale contains *strongly agree, agree* and *slightly agree.*

5.4.1.3 Attitude to Sharing

Hypothesis 1: Gender, age, education level, tenure in the current workplace, tenure in the hospitality industry, organizational hierarchical level, and departmental environment influence individuals' attitudes to sharing.

This hypothesis was tested by application of t-tests and analyses-of-variance (ANOVA). Prior to the ANOVAs Levene's tests for equality of variances was conducted: these were all insignificant at the p= 0.05 level.

The construct of attitude to knowledge sharing was examined for differences on a number of demographic variables. The results showed no difference between males and females [t (407) = -0.492, p=0.623]. Table 5.6 shows the tests for the other demographic variables. Only organisational hierarchy was significant: age, tenure in the current workplace, tenure in the hospitality industry, education level and the departments where respondents worked do not influence attitudes.

To further investigate the differences between means for the organisational

hierarchy groups, post-hoc analysis was conducted using Scheffé Multiple Comparison tests. Table 5.7 shows that top management staff were significantly different from front-line staff (p = 0.005).

TABLE 5.6 Demographic Differences in Attitude to Sharing (N=499)

Dimensions	n	Mean	F value	df	p
Age (years old)					
Below 30	277	5.461			
31-40	142	5.502	.316	2, 496	.730
Above 41	80	5.550			
Tenure in the hospitality industry (years)					
Below 1	38	5.382			
1-3	130	5.444			
3-5	100	5.405	.832	4, 494	.505
5-10	117	5.586			
Above 10	114	5.542			
Tenure in the current hotel (years)					
6mths-1 yr	114	5.564			
1-3	174	5.435	.464	3, 495	.707
3-5	82	5.506			
Above 5	129	5.477			
Departments					
Rooms	196	5.503			
F & B	209	5.462	.138	2, 496	.871
Others	94	5.511			
Organisational hierarchy					
Top Mgt. level	109	5.144			
Middle Mgt. level	180	4.963	5.419**	2, 496	.005
Front-line level	210	4.798			
Education level					
PhD/Master	14	6.000			
Bachelor/Diploma	332	5.539	1.431	2, 496	.107
Others	153	5.377			

** $p < 0.01$

TABLE 5.7 Scheffé Post-Hoc Comparison Test: Front-Line Versus Other Levels

	Mean Difference	Std. Error	*p*
Top Mgt. level	- .346**	.107	.005
Middle Mgt. level	- .165	.092	.199

** $p < 0.01$

TABLE 5.8 Scheffé Post-Hoc Comparison Test: Middle Management Versus Top Management

	Mean Difference	Std. Error	*p*
Top Mgt. level	- .181	.110	.257

* $p < 0.05$

5.4.2 PREFERRED MEDIA FOR KNOWLEDGE SHARING

Respondents were asked to rate their preferences for eight possible media for sharing knowledge with others (Table 5.9). The means show that all were well used, with spontaneous sharing most favoured, followed by mentoring and formal meetings. The least preferred medium involved discussion forums, with the two types of social sharing moderately used.

TABLE 5.9 Preferred Media for Knowledge Sharing (N = 499)

Media	Mean	Standard Deviation
Spontaneous circumstances	6.132	0.995
Mentoring programs	5.734	1.180
Formal meetings and inter-shift briefing	5.707	1.142
Cross department training	5.685	1.195
Training sessions	5.649	1.199
Organized social events	5.647	1.221
Discussion forums, workshops, case studies	5.495	1.120
Informal gatherings	4.575	1.589

Note:
7-point scale was used with 1= not at all important , 4= moderately important, 7= Extremely important.

Hypothesis 2a: Employees prefer to share knowledge through social interactions rather than training programs.

There was a significant difference between these two media (t= 10.112, p<0.05), with training programs (mean= 5.641) being preferred over social interactions (mean=5.111) such as organised social events and informal gatherings, leading to the rejection of Hypothesis 2a.

Hypothesis 2b: Employees prefer to share knowledge in spontaneous circumstances rather than pre-set occasions.

These media for sharing showed a significant difference (t=12.525, p<0.05), with spontaneous circumstances (mean= 6.132) being rated more preferred than predetermined occasions (mean= 5.641) such as formal meetings, mentoring programs, workshops, training sessions and cross departmental trainings. Hypothesis 2b is therefore supported.

5.4.3 FLOW OF KNOWLEDGE

Exploratory Question 2: How are individuals most likely to deal with acquired knowledge?

Table 5.10 shows how employees processed information after they had collected it. Respondents were requested to tick only one item from the nine listed.

One group of respondents merely wrote the new information down and did nothing (15.6%). If this information was valuable, the company might lose opportunities for future advancement, and this behaviour seems to strongly limit learning. Another group of equal size (15%) did think about, share and use knowledge, a form of single-loop learning. A third and smaller group (12%) tried out new ideas before sharing them. The most common response (about 25% of respondents) used these approaches along with updating of documentation in SOPs, enabling everyone in the workplace to keep up-to-date; this is double-loop learning.

TABLE 5.10 Flow of Knowledge (N = 499)

Behaviour	Frequency (n)	Percent
1. Forget it	4	0.8
2. Write it down in a certain place	78	15.6
3. Think about it	55	11.0
4. Directly share with others	34	6.8
5. Think and share with colleagues, and report it to superiors	29	5.8
6. Think about it, share and discuss with colleagues, try to apply it to the work	75	15.0
7. Think, and apply it to the work (trial-and-error); if workable, discuss it with colleagues	60	12.0
8. Think, apply, discuss with colleagues, and report workable cases to superiors; if they agree colleagues pursue the new approach but DON'T update documentation of SOPs	40	8.0
9. Think, apply, discuss with colleagues, and report workable cases to superiors; if they agree colleagues pursue the new approach WITH updating documentation of SOPs	124	24.8

5.4.4 ATTITUDE TO LEARNING
Hypothesis 3: Gender, age, education level, tenure in the current workplace, tenure in the hospitality industry, organizational hierarchical level and departmental environment influence individuals' attitude to learning.

The construct of attitudes to learning was examined for differences in a number of demographic variables. Males and females were not statistically different [$t_{(497)}=0.583$, $p = 0.56$]. Table 5.11 presents results of the remaining tests of Hypothesis 3. Only organisational hierarchy showed a difference at $p=0.05$ [$F_{(2, 496)} = 10.421$, $p < 0.001$], although tenure in the industry and to a lesser extent age were just out of this acceptable range of statistical confidence. It is possible that a larger sample size would show more significant results here. Hypothesis 3 is only partially accepted.

TABLE 5.11 Differences in Attitude to Learning (N=499)

Dimensions	n	Mean	F	df	p
Age (years old)					
Below 30	277	5.387			
31-40	142	5.527	2.796	2, 496	.062
Above 41	80	5.633			
Tenure in the hotel industry (years)					
Below 1	38	5.432			
1-3	130	5.303			
3-5	100	5.402	2.365	4, 494	.051
5-10	117	5.590			
Above 10	114	5.593			
Tenure in the current hotel (years)					
6mths-1 yr	114	5.475			
1-3	174	5.359	1.452	3, 495	.227
3-5	82	5.554			
Above 5	129	5.547			
Departments					
Rooms	196	5.555			
F & B	209	5.426	1.716	2, 496	.181
Others	94	5.370			
Organisational hierarchy					
Top Mgt. level	109	5.743			
Middle Mgt. level	180	5.517	10.421***	2, 496	.000
Front-line level	210	5.279			
Education level					
PhD/Master	14	5.743			
Bachelor/Diploma	332	5.496	0.818	2.496	.514
Others	153	5.377			

*** $p < 0.001$

A Scheffé Post-Hoc Multiple Comparison test on organisational hierarchy showed that the learning attitude of the front-line employees showed a significant difference from that of top and middle management staff members. Front-line employees had less favourable attitudes to learning than other groups (Table 5.12). There was no significant difference between middle level and top level

management staff (Table 5.13).

TABLE 5.12 Scheffé Post-Hoc Comparison Test: Front-Line Level Versus Other Levels

	Mean Difference	Std. Error	p
Top Mgt. level	- .464***	.104	.000
Middle Mgt. level	- .238*	.089	.022

* p < 0.05
*** p < 0.001

TABLE 5.13 Scheffé Post-Hoc Comparison Test: Middle Management Versus Top Management

	Mean Difference	Std. Error	p
Top Mgt. level	- .227	.107	.087

* p < 0.05

5.5 KNOWLEDGE SHARING PRACTICES

5.5.1 CONTENT OF KNOWLEDGE SHARING

5.5.1.1 Descriptive Analysis

The most highly shared items were details of products and services, ways of dealing with situations and problem-solving approaches (Table 5.14). Details of products and services would be easy to obtain from documents or computer systems, so that lack of this information might not directly cause costly mistakes. However, if employees possess insufficient competencies for dealing with situations and problem-solving approaches, customer services could be directly affected. Moreover, the latter types of knowledge might not be easily found in the workplace.

TABLE 5.14 Content of Knowledge Sharing (N = 499)

Sharing Content	Mean	Standard Deviation
Details of products and services offered	5.461	1.094
Ways of dealing with situations	5.339	1.151
Problem-solving approaches	5.333	1.166
Guests' requests	5.267	1.172
Guests' complaints	5.210	1.190
Customer preference	5.190	1.198
Guests' praises	4.968	1.182
Competitors' performances	4.347	1.477
Competitors' strategies	4.002	1.475
Future trends	3.996	1.444
Government regulation	3.792	1.380

Note:
7-point scale was used with 1= nil, 2= very low, 3= low, 4= moderate, 5= high, 6= very high,
   7= extremely high.

5.5.1.2 Factor Analysis: Content of Knowledge Sharing

A factor analysis was conducted on the ten items in Table 5.14 to determine if they could be compressed into broader factors. After the extraction and rotation, two eigenvalues were higher than 1: Operational Knowledge and Strategic Knowledge. Table 5.15 shows the structure of these factors.

The first factor describes items related to customers; for example, guest requests, customer complaints, and customer preferences. As these emphasise daily routines this factor was named Operational Knowledge. More strategic aspects, such as future trends for the hospitality industry and competitors' strategies and performance, were covered in the second factor, Strategic Knowledge. These involve knowledge from both internal sources and external sources such as government policies and regulations, and databases and publications on competitor-related information and industry movements. Four items of Factor 2 had loadings between 0.801 and 0.962.

The predominant factor, Operational Knowledge, accounted for 43% of the total variance (Table 5.15) and both factors cumulatively represented 73.6%. The

internal consistency of each rotated factor was very high (α Operational Knowledge=0.935, α Strategic Knowledge = 0.950), showing a clear factor structure (Table 5.16). These two factors are used to summarise items in Table 5.15 for testing the next hypothesis.

TABLE 5.15 Factor Analysis: Content of Knowledge Sharing

Items	Factor 1	Factor 2
Factor 1: Operational Knowledge		
Guests requests	.873	
Customer complaints	.864	
Customer preferences	.855	
Problem-solving approaches	.853	
Ways of dealing with situations	.809	
Customer praises	.753	
Details of products and services offered	.673	
Factor 2: Strategic Knowledge		
Future trends		.962
Competitor strategies		.954
Government regulations		.893
Competitor performances		.801
Eigenvalues	4.722	3.377
% of Variance	42.924	30.701
Cumulative % of Variance	73.624	
KMO Measure of Sampling Adequacy	0.888	
Bartlett's Test of Sphericity	5361.051 ($p < 0.001$)	

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalisation.

TABLE 5.16 Cronbach's Alpha of the Factors After Rotation

Items	Factor Name	α
Guests Requests		
Customer Complaints		
Customer Preferences	Operational	
Problem-solving approaches	Knowledge	.935
Ways of dealing with situations		
Customer Praises		
Details of products and services offered		
Future Trends		
Competitor Strategies	Strategic	.950
Government Regulations	Knowledge	
Competitor Performances		

5.5.1.3 Type of Knowledge Shared

Hypothesis 8: The type of knowledge shared varies across different levels in the organisational hierarchy.
H8a: Front-line staff share more operational knowledge than strategic knowledge.

There was a significant difference (p < 0.001) between middle and front line staff members in sharing of both strategic and operational knowledge (Table 5.17). Front-line and middle level staff were more likely to share Operational Knowledge than Strategic Knowledge. Hypothesis 8a was therefore supported.

TABLE 5.17 Strategic Versus Operational Knowledge Sharing: Differences for Organisational Hierarchy Levels (N=499)

	Top Level (n=109)	Middle Level (n=180)	Front-line Level (n=210)
Mean (Strategic Knowledge)	5.381	3.903	3.448
Mean (Operational Knowledge)	5.245	5.513	5.033
t-value	1.020	-18.225***	-18.361***
Degree of freedom (df)	108	179	209
Significance (p)	0.310	.000	.000

*** p < 0.001

H8b: Top management staff share more strategic than operational knowledge.

Top management staff did not differentiate these types of knowledge (t = 1.020, df=108, p > 0.05).

5.5.2 MEDIA FOR KNOWLEDGE SHARING

Exploratory Question 3: What sorts of media are used for knowledge sharing?

5.5.2.1 Descriptive Analysis

The most preferred communication media for sharing knowledge was "conversation with *people* (including co-workers, superiors and customers)", followed by departmental logbook/sales reports and bulletin boards (Table 5.18). The mean score for both items shows that respondents normally used that medium

more than once per week.

TABLE 5.18 Media for Knowledge Sharing (N = 499)

Communication Media	Mean	Standard Deviation
Conversation with co-workers	6.220	1.232
Conversation with superiors	5.896	1.468
Conversation with customers	5.770	1.630
Departmental logbooks	5.721	1.650
Your hotel/Department bulletins	5.651	1.487
Conversation with junior colleagues	5.615	1.877
Any kinds of meetings	5.453	1.756
Standard operation procedures (SOPs)	4.980	1.689
Reading materials (newsletters, magazines, etc.)	4.858	1.695
Conversation with staff who work for other hotels	4.852	1.913
Internet facilities, e-mails	4.689	2.075
The hotel computer system (e.g. Delphi, etc.)	4.581	2.027
Training programs arranged by your own hotel	4.311	1.716
Workshops and discussion forums	3.235	1.758
Social activities arranged by the hotel and/or superiors	2.942	1.669
Skill competitions	2.860	1.751
Attending industry gatherings	2.683	1.789
Site inspection of other hotels	2.555	1.486
Training programs arranged by outside organizers	2.399	1.472
Attending trade shows	2.305	1.486
Social activities arranged by outside organizers	2.092	1.398

Note:
7-point scale was used with 1= never, 2= half-yearly, 3= quarterly, 4= bimonthly, 5= monthly, 6= weekly,
   7= more than once per week.

Training programs/sessions arranged by respondents' own hotels (mean = 4.311) and workshops and discussion forums (mean = 3.235) were run every two or three months. The least used media for sharing were attending trade shows and training sessions, and social activities arranged by organisations outside hotels. The latter, especially, was not common in these hotels.

For the means of "attending trade shows" and "social activities", the standard deviations were relatively high. This indicates that these two responses were widely spread, which in turn shows the respondents had very diverse behaviour

and preference of using the media for knowledge sharing.

5.5.2 Factor Analysis: Media for Knowledge Sharing

A factor analysis was conducted to discover any higher order factor structure that might summarise the items in Table 5.19. Initially, the analysis using "Principal Axis Factoring" extraction and Varimax rotation on the items in Table 5.18 revealed high correlations between factors 1 and 2 and between factors 3 and 4. According to Coakes and Steed (2003), in this circumstance an oblique method is more appropriate than orthogonal rotation, and the analysis was repeated with Direct Oblimin rotation. The factorability of items was demonstrated (Table 5.19; KMO MSA = 0.855, Bartlett's test of sphericity = 3844.135, $p < 0.001$). The four factors together explained 45.739% of the total variance.

Factor 1 was labelled Conversation as it covered conversation with people including internal customers such as co-workers, superiors and junior staff members, and external customers. It also included communication channels such as meetings, bulletins and logbooks. Conversation was most crucial to knowledge sharing, explaining 24.304% of variance. Factor loadings for the eight items ranged from 0.417 to 0.831.

The second discernible factor was termed Outside Arrangements. It consisted of attending social activities, trade shows, industry gatherings and training sessions organised by outside organisations.

The third factor, Documentation, incorporated three media mainly used for storing knowledge: hotel computer systems, Internet e-mails and reading materials. Such storage media enable individuals to retrieve and transfer organisational knowledge.

The last factor was named Hotel-Arranged Activities. This covered workshops and discussion forums, social activities and training programs arranged by one's own hotel and skill competitions.

All factors had an acceptable Cronbach's alpha (Table 20).

TABLE 5.19 Factor Analysis: Media for Knowledge Sharing

Items	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1: Conversation				
Conversation with co-workers	.831			
Conversation with superiors	.764			
Conversation with customers	.649			
Conversation with junior staff	.643			
Any kinds of meetings	.551			
Your hotel/Department bulletins	.477			
Conversation with staff who work for other hotels	.468			
Departmental logbooks	.417			
Factor 2: Outside Arrangements				
Social activities arranged by outside organizers		-.722		
Attending trade shows		-.709		
Attending industry gatherings		-.699		
Training programs arranged by outside organizers		-.588		
Site inspection of other hotels		-.580		
Factor 3: Documentation				
The hotel computer system			.849	
Internet facilities, e-mails			.710	
Reading materials			.461	
Factor 4: Hotel-Arranged Activities				
Workshops, discussion forums				.699
Social activities arranged by the hotel and/or superiors				.501
Skill competitions				.466
Training programs arranged by your own hotel and/or superiors				.462
SOPs				.333
Initial Eigenvalues	5.635	3.130	1.610	1.282
% of Variance	24.304	12.491	5.306	3.638
Cumulative % of Variance		45.739		
KMO MSA		0.855		
Bartlett's Test of Sphericity		3844.135 ($p < 0.001$)		

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalisation.

TABLE 5.20 Cronbach's Alpha of the Factors After Rotation

Items	Factor Name	α
Conversation with co-workers Conversation with superiors Conversation with customers Conversation with junior staff Any kinds of meetings Your hotel/Department bulletins Conversation with staff who work for other hotels Departmental logbooks	Conversation	.835
Social activities arranged by organizers outside the hotel Attending trade shows Attending industry gatherings Training programs arranged by organizers outside the hotel Site inspection of other hotels	Outside Arrangements	.827
The hotel computer system Internet facilities, e-mails Readings materials	Documentation	.728
Workshops, discussion forums Social activities arranged by the hotel and/or superiors Skill competitions Training programs arranged by your own hotel Standard operation procedures (SOPs)	Hotel- Arranged Activities	.733

These four factors, Conversation, Outside Arrangements, Documentation and Hotel-Arranged Activities, proved a way of summarising the many media for knowledge sharing reported by respondents in Table 5.19. Table 5.21 summarises the mean scores for items within the factors, and these factors will be further discussed in Chapter 6.

TABLE 5.21 Mean Scores of the Factors

Factor Name	Items	Mean
Conversation	Conversation with co-workers	6.220
	Conversation with superiors	5.896
	Conversation with customers	5.770
	Departmental logbooks	5.721
	Your hotel/Department bulletins	5.651
	Conversation with junior staff	5.615
	Any kinds of meetings	5.453
	Conversation with staff who work for other hotels	4.852
Outside Arrangements	Attending industry gatherings	2.683
	Site inspection of other hotels	2.555
	Training programs arranged by organizers outside the hotel	2.399
	Attending trade shows	2.305
	Social activities arranged by organizers outside the hotel	2.092
Documentation	Readings materials	4.858
	Internet facilities, e-mails	4.689
	The hotel computer system	4.581
Hotel-Arranged Activities	Standard operation procedures (SOPs)	4.980
	Training programs arranged by your own hotel	4.311
	Workshops, discussion forums	3.235
	Social activities arranged by the hotel and/or superiors	2.942
	Skill competitions	2.860

5.5.3 OBSTACLES TO KNOWLEDGE SHARING

Exploratory Question 4: What factors inhibit knowledge sharing?

5.5.3.1 Descriptive Analysis

The obstacles to sharing were encountered only moderately often, as shown by the fact that mean scores were between 3 and 4 (Table 5.22). The top three impediments to sharing were: busy shifts allowing no opportunities for sharing; the tacit nature of operational knowledge; and too much knowledge required for daily routines.

Some items were noticeably not encountered: people not knowing how to share; knowledge being selectively transferred (i.e. partial hoarding behaviour); and no mutual sharing. It is also noteworthy that the motivators (reward incentives) seemed not to greatly impede sharing.

TABLE 5.22 Obstacles to Knowledge Sharing (N = 499)

Obstacles	Mean	Standard Deviation
No time allowed	4.387	1.436
Difficulties in understanding some operational knowledge	4.118	1.341
Overload of job-related knowledge	3.990	1.366
Lack of sharing skills	3.964	1.350
Knowledge selectively shared	3.803	1.351
One-way, not two-way, sharing practices	3.575	1.427
Lack of appropriate rewards	3.483	1.485
Difficulties with the usefulness of past experience in today's situations	3.441	1.392
Lack of intimacy of friendship	3.387	1.505
Unattractive rewards	3.359	1.403
Superiors do not care about sharing knowledge	3.028	1.477
Worry about promotional competition with sharees	2.613	1.310
Negative attitude	2.555	1.323
Difficult work environment	2.443	1.252

Note:
7-point scale was used with 1= nil, 2= very low, 3= low, 4= moderate, 5= high, 6= very high, 7= extremely high.

5.5.3.2 Spare Time Activities at Work

It is interesting to discover what employees do during periods of slack, when sharing could occur. The highest ranked item in Table 5.23 was 'no spare time', which echoes a previous result. The second highest 'cleaning the workplace', obviously does not involve knowledge sharing but this was followed by two sharing practices, 'discussing and analysing guest's complaints and requests' and 'training junior staff'.

TABLE 5.23 Slack Time Activities (N = 499)

Activities	Mean	Standard Deviation
No Spare time	5.096	1.461
Cleaning the workplace	5.002	1.338
Discuss and analyse guest's complaints and requests	4.926	1.299
Train junior colleagues	4.695	1.482
Read job-related materials such as newspapers, magazines	4.405	1.683
Comment on guests' behaviour without further discussion	3.449	1.450
Discuss personal matters of your superiors and co-workers	2.801	1.297
Discuss the private matters of guests	2.603	1.314
Do nothing/ Hang around	2.513	1.392

Note:
7-point scale was used with 1= nil, 2= very low, 3= low, 4= moderate, 5= high, 6= very high, 7= extremely high.

5.5.4 APPROACHES TO KNOWLEDGE STORING

Exploratory Question 5: How do hotels store organizational knowledge?

Table 5.24 demonstrates the extent to which a respondent's department used various media for storing organisational knowledge. SOPs and departmental logbooks were most often used for retaining organisational knowledge, information technology media such as the hotel computer systems and Intranet were sometimes used, and training or learning reports after attending training programs were least used.

TABLE 5.24 Media for Knowledge Storing (N = 499)

Knowledge Repositories	Mean	Standard Deviation
Standard operational procedures (SOPs)	5.289	1.328
The departmental logbook, sales reports	5.281	1.496
Filing systems, memos	5.072	1.408
The hotel computer systems (e.g. Fidelio, Micros, Lotus Notes)	4.748	1.591
Intranet	4.485	1.551
Training reports	3.232	1.547

Note:
7-point scale was used with 1= nil, 2= very low, 3= low, 4= moderate, 5= high, 6= very high, 7= extremely high.

5.6 RELATIONSHIPS BETWEEN MAJOR CONSTRUCTS

5.6.1 INDIVIDUAL BEHAVIOUR AND KNOWLEDGE SHARING

Hypothesis 4: Individual competencies positively influence knowledge sharing.

Hypothesis 5: Attitude to sharing positively influences knowledge sharing.

Hypothesis 6: Attitude to storing positively influences knowledge sharing.

Hypothesis 7: Attitude to learning positively influences knowledge sharing.

The correlation matrix in Table 5.25 shows that a positive Attitude to Sharing and Learning was associated with Knowledge Sharing. Attitude to Storing, and Individual Competencies, were moderately correlated with Knowledge Sharing – these constructs did not contribute a lot to the prediction of Knowledge Sharing.

Multiple regression analysis with the Enter method was used to explore the relationship between the four independent variables (Attitude to Sharing, Attitude to Storing, Attitude to Learning, and Competence) and the dependent variable, Knowledge Sharing (Table 5.26).

TABLE 5.25 Major Constructs: Descriptive Statistics and Correlation Matrix (N=499)

Variables	Mean	SD	Y	X1	X2	X3	X4
Y Knowledge Sharing [a]	4.993	.911	1.000				
X1 Attitude to Sharing [b]	5.487	.918	.643**	1.000			
X2 Learning Attitude [b]	5.466	.897	.696**	.692**	1.000		
X3 Individual Competence [b]	5.131	.801	.323**	.290**	.338**	1.000	
X4 Attitude to Storing [b]	5.770	.918	.482**	.530**	.516**	.385**	1.000

Note:
SD: Standard Deviation
a 7-point scale was used with 1= nil, 2=very low, 3= low, 4=moderate, 5= high, 6=very high, 7=extremely high.
b 7-point scale was used with 1=strongly disagree, 2=disagree, 3=slightly disagree, 4=moderate, 5= slightly agree, 6=agree, 7=extremely agree
** Correlation is significant at the 0.01 level (one-tailed)

Individual competence was not statistically significant ($\beta = 0.064$, $p = 0.058$). The other variables accounted for 54% of the total variance in Knowledge

Sharing (adjusted R^2 = 0.540), which is highly significant as indicated by the F value (p< 0.001). Durbin-Watson statistics which are between 1.5 and 2.5 mean homoscedasticity and independence of residuals. In this study, these statistics were equal to 1.791. Variance inflation factor (VIF) statistics were lower than 3, well below the threshold of 10 (Myers, 1990), showing low multicollinearity among the independent variables. Consequently, the stability of the regression analysis was not affected. Thus, the regression model was appropriate.

TABLE 5.26 Regression of Individual Behaviour on Knowledge Sharing

Model	Unstandardised Coefficients		Std. Coefficients Beta	t	VIF
	Beta	Std. Error			
Constant	.154	.228		.674	
Attitude to Sharing	.273	.044	.275	6.237***	2.109
Learning Attitude	.449	.044	.443	10.125***	2.069
Individual Competence	.072	.038	.064	1.901	1.211
Attitude to Storing	.079	.038	.080	2.071*	1.596
R			.737		
R^2			.544		
Adjusted R^2			.540		
F statistics			147.169***		
Durbin-Watson statistics			1.791		

N = 499

* p< 0.05

*** p < 0.001

An examination of the t-values indicates that Attitude to Sharing, Attitude to Storing and Attitude to Learning were significantly related to Knowledge Sharing, supporting Hypotheses 5, 6 and 7. On the other hand, individual competence (t = 1.901, p > 0.05) did not statistically contribute to Knowledge Sharing. The correlation matrix (Table 5.25) shows that a low correlation coefficient value was found.

From these results Hypothesis 4 is rejected and Hypotheses 5-7 are accepted.

5.6.2 LEADERSHIP ROLES AND KNOWLEDGE SHARING

Hypothesis 9: 'Mentor' and 'facilitator' leadership roles contribute more than other roles to knowledge sharing.

Table 5.27 summarises means, standard deviation and correlation coefficients

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for these variables. Facilitator, Mentor, Innovator, and Broker roles were highly and positively correlated to Knowledge Sharing. Interestingly, Knowledge Sharing correlated significantly but *negatively* with Producer, Director, Coordinator and Monitor roles.

A stepwise regression using Forward entry of variables was conducted to explore the relationship between the eight Leadership Roles and Knowledge Sharing. The Facilitator Role was added to the regression model first and explained 52.3% of the variance in the dependent variable of Knowledge Sharing (adjusted $R^2 = 0.523$). The Mentor Role increased this to 55.3%. Only four roles were significant predictors of knowledge sharing (Table 5.28): Facilitator, Mentor, Monitor and Innovator. The Producer, Director, Coordinator and Broker Roles were not significantly related. The Monitor Role showed a negative relationship, such that monitoring reduced sharing.

Hypothesis 9 predicted that Mentor and Facilitator roles positively contributed the outcomes of Knowledge Sharing, and was confirmed by the above statistical analysis. In addition to the Facilitators and Mentors, the Innovator role positively influenced Knowledge Sharing and the Monitor roles negatively influenced it.

TABLE 5.27 Leadership Roles and Knowledge Sharing: Descriptive Statistics and Correlation Matrix (N=499)

Variables	Mean	SD	Y	X1	X2	X3	X4	X5	X6	X7	X8
Y Knowledge Sharing	4.933	0.911	---								
X1 Facilitator	4.829	1.680	0.724**	---							
X2 Mentor	4.805	1.672	0.719**	0.881**	---						
X3 Innovator	4.391	1.515	0.667**	0.841**	0.816**	---					
X4 Broker	4.495	1.522	0.637**	0.784**	0.788**	0.891**	---				
X5 Coordinator	4.373	1.647	-0.346**	-0.400**	-0.346**	-0.274**	-0.247**	---			
X6 Monitor	3.954	1.715	-0.404**	-0.462**	-0.393**	-0.302**	-0.292**	0.847**	---		
X7 Producer	4.043	1.828	-0.385**	-0.464**	-0.396**	-0.308**	-0.299**	0.847**	0.902**	---	
X8 Director	4.182	1.564	-0.354**	-0.400**	-0.333**	-0.265**	-0.280**	0.871**	0.817**	0.826**	---

Note:
SD: Standard Deviation
7-point scale was used with 1= nil, 2= very low, 3= low, 4= moderate, 5= high, 6= very high, 7= extremely high.
** Correlation is significant at the 0.01 level (one-tailed)

The regression model accounted for 56.3% of variability (adjusted R^2 = 0.563, Table 5.28), which is highly significant. The Durbin-Watson statistic of 1.663 shows homoscedasticity and independence of residuals. VIF statistics below 10 show low collinearity among the independent variables. Consequently, the stability of the regression was acceptable and the regression model was appropriate.

TABLE 5.28 Regression of Leadership Roles on Knowledge Sharing

Model	Unstandardised Coefficients		Std. Coefficients Beta	t	VIF
	Beta	Std. Error			
Constant	3.241	.139		23.393***	
Facilitator	.144	.040	.266	3.608***	6.197
Mentor	.173	.036	.317	4.831***	4.903
Monitor	- .059	.018	- .111	- 3.267**	1.317
Innovator	.091	.035	.151	2.600*	3.862
R			.752		
R^2			.566		
Adjusted R^2			.563		
F statistics			160.629***		
Durbin-Watson statistics			1.663		

N = 499
* P < 005
** p < 0.01
*** p < 0.001

5.6.3 ORGANISATIONAL CULTURE AND KNOWLEDGE SHARING

Hypothesis 10: An organisational culture with an emphasis on collaboration favours the positive outcomes of knowledge sharing.

Table 5.29 shows a strongly significant positive relationship between the independent variables of Work Group Support, Immediate Superior Support and Business Unit Support, and the dependent variable of Knowledge Sharing. For each level of analysis, more supportive cultures improved knowledge sharing. Work Group Support had the highest correlation.

The influence of organisational culture on knowledge sharing was examined with regression analysis, with scores on the components of organisational culture aggregated into a composite score. The simple regression model explained 69.9% of variance in the dependent variable, and Organisational Culture with an emphasis on collaboration was significantly related to Knowledge Sharing (β = 0.654, t = 34.027,

p < 0.001). Thus, Hypothesis 10 is confirmed.

TABLE 5.29 Organisational Culture: Descriptive Statistics and Correlation Matrix (N=499)

	Variables	Mean	SD	Y	X1	X2	X3
Y	Knowledge Sharing [a]	4.933	0.911				
X1	Work Group Support [b]	4.917	1.053	0.825**			
X2	Immediate Superior Support [b]	4.838	1.348	0.759**	0.729**		
X3	Business Unit Support [b]	4.726	1.396	0.737**	0.753**	0.806**	---

Note:
SD: Standard Deviation
a 7-point scale was used with 1= nil, 2=very low, 3= low, 4=moderate, 5= high, 6=very high, 7=extremely high.
b 7-point scale was used with 1=strongly disagree, 2=disagree, 3=slightly disagree, 4=moderate, 5= slightly agree, 6=agree, 7=extremely agree
** Correlation is significant at the 0.01 level (one-tailed)

Next, multiple regression analysis with Forward entry of variables was applied (Table 5.30). Work Group Support was entered first and explained 68% of variability. Overall 73.5% of the variance was explained by the independent variables (adjusted R^2=0.735). The Durbin-Watson and VIF statistics show the regression model was appropriate. The correlations show that Work Group Support was higher than that from Immediate Superiors or the Business Unit.

TABLE 5.30 Regression of Organisational Culture on Knowledge Sharing

Model	Unstandardised Coefficients		Std. Coefficients Beta	t	VIF
	Beta	Std. Error			
Constant	1.390	.101		13.796***	
Work Group Support	.471	.032	.544	14.756***	2.562
Immediate Superior Support	.190	.028	.281	6.852***	3.172
Business Unit Support	.066	.028	.100	2.355*	3.432
R			.858		
R^2			.737		
Adjusted R^2			.735		
F statistics			462.364***		
Durbin-Watson statistics			1.506		

N = 499

* p < 0.05

*** p < 0.001

5.6.4 KNOWLEDGE SHARING, ORGANISATIONAL LEARNING AND ORGANISATIONAL EFFECTIVENESS

Table 5.31 shows descriptive statistics including means, standard deviations and correlations for all variables.

TABLE 5.31 Knowledge Sharing, Organisational Learning and Organisational Effectiveness: Descriptive Statistics and Reliabilities (N=499)

	Variables	Mean	SD	Y	X1	X2
Y	Organisational Effectiveness [a]	5.130	0.986	---		
X1	Organisational Learning [a]	4.827	1.174	0.855**	---	
X2	Knowledge Sharing [b]	4.933	0.911	0.739**	0.621**	---

Note:
SD: Standard Deviation
a 7-point scale was used with 1=strongly disagree, 2=disagree, 3=slightly disagree, 4=moderate, 5= slightly agree, 6=agree, 7=extremely agree
b 7-point scale was used with 1= nil, 2=very low, 3= low, 4=moderate, 5= high, 6=very high, 7=extremely high.
** Correlation is significant at the 0.01 level (one-tailed)

5.6.4.1 Knowledge Sharing and Organisational Learning

Hypothesis 11: Knowledge sharing positively influences organisational learning.

Table 5.32 indicates that Knowledge Sharing significantly contributed to the prediction of Organisational Learning, explaining 38.5% of variance. Thus, Hypothesis 11 was accepted.

TABLE 5.32 Regression of Knowledge Sharing on Organisational Learning

Model	Unstandardised Coefficient		Std. Coefficient	t
	Beta	Std. Error	Beta	
Constant	1.381	.195		7.090***
Knowledge Sharing	.686	.039	.621	17.650***
R		.621		
R^2		.386		
Adjusted R^2		.385		
F statistics		311.528***		

N = 499
*** p < 0.001

5.6.4.2 Knowledge Sharing, Organisational Learning and Organisational Effectiveness

Hypothesis 12: The outcomes of knowledge sharing and organisational learning positively influence organisational effectiveness.

Table 5.31 shows that Knowledge Sharing and Organisational Learning were strongly associated with the Organisational Effectiveness. This section investigates the equation that relates these variables.

A regression analysis with Forward entry of variables was employed. Organisational Learning was the first variable to enter the regression model, explaining 73.1% of variability. The two predictor variables accounted for 80% of the total variance in Organizational Effectiveness (Table 5.33). The VIF and Durbin-Watson statistics were acceptable, showing the regression model was appropriate. This regression supported Hypothesis 12.

TABLE 5.33 Regression of Knowledge Sharing and Organisational Learning on Organisational Effectiveness

Model	Unstandardised Coefficients		Std. Coefficient Beta	t	VIF
	Beta	Std. Error			
Constant	.147	.116		1.266	
Organisational Learning	.646	.025	.645	25.334***	1.628
Knowledge Sharing	.374	.028	.338	13.279***	1.628
R			.896		
R^2			.802		
Adjusted R^2			.801		
F statistics			104.697***		
Durbin-Watson statistics			1.902		

N = 499

*** $p < 0.001$

5.7 SUMMARY

The results reveal that first, individual attitude to learning, knowledge sharing and storing significantly affected outcomes of knowledge sharing; however, individual competences did not significantly affect the outcomes. Second, organizational culture which emphasised on collaboration and leadership roles of facilitator, mentor and innovator significantly influenced knowledge sharing. Third, knowledge sharing significantly contributed to organizational learning and organizational effectiveness.

The findings indicate that a majority of the respondents, including top managers in the researched hotels, shared operational knowledge. They also indicate that organisational knowledge was still mainly stored in written/document formats. The results reveal that the most popular approach which was used to share knowledge was a conversation medium, but that insufficient time was allowed for this to occur.

CHAPTER SIX: DISCUSSION

6.1 INTRODUCTION

The purpose of this study was to investigate the manner in which knowledge sharing was implemented in international tourist hotels in Taiwan. The study tested a model in which knowledge sharing was based on individuals' behaviour, organisational culture (specifically focused on collaboration) and leadership roles (Figure 3.1). Knowledge sharing, in turn, was hypothesised to influence organisational learning and organisational effectiveness.

This chapter begins with discussion of the demographic profiles of respondents, and follows with a review of the extent of individuals' knowledge sharing. Next, the implementation of knowledge sharing practices in the researched companies is investigated. The final section discusses results of the tests concerning hypothesised relationships between individual variables of knowledge sharing, organisational culture, leadership roles, organisational learning and organisational effectiveness.

6.2 RESPONDENTS' DEMOGRAPHIC PROFILES

The demographic data (Table 5.1) indicate that the sample comprised a reasonably even mix of top-level, mid-level and front-line staff, closely matching the expected research design. Around two thirds had a qualification above college level. The high level of education increased confidence that respondents would give useful answers.

Respondents also had substantial experience on which to base their replies, with 26.1% having been more than a year in the industry, 20% more than 3 years and 46.2% more than 5 years. Overall, the demographic variables suggest that the sample reflected the population, within the limits of the author's experience, and represented an informed group of respondents.

6.3 INDIVIDUALS' KNOWLEDGE SHARING BEHAVIOURS

6.3.1 ATTITUDE TO SHARING

Various theoretical considerations concerning gender were combined with expectations concerning age, tenure in the industry and hotel, and organisational hierarchy from the literature to develop the seven components of Hypothesis 1. Before turning to these, Exploratory Question 1 concerning respondent's willingness to share information is discussed.

A majority of the respondents (78.2%, see Table 5.4) indicated they were willing to share job-related knowledge without their colleagues asking. The type of knowledge that should be shared according to respondents involved *customers* (73.3%) or *operational procedures* (78.8%, see Table 5.5) more than *IT* or *competitors*. This may reflect the fact that a large number of respondents were in positions requiring face-to-face contact with customers - about 80% worked at middle and lower levels of the organisational hierarchy. Such employees are expected to care more about knowledge of customers and daily routines than about knowledge of their competitors and IT applications.

Hypothesis 1 (Table 5.7) tested the effect of organisational hierarchy. There was a statistically significant difference such that top management perceived knowledge sharing to be more important than front-line employees. This implies a belief in knowledge sharing as a means to improving customer satisfaction among top management. However, it also shows that subordinates did not fully share their perception, and there appears to be a need to educate front-line employees about the importance of knowledge sharing.

These differences reflect Bailey and Clark's (2000) notion that employees at different levels have different knowledge 'territories'. The implication is that organisational attempts to develop sharing cultures must specifically address the issue of aligning these territorial viewpoints, or find other ways to transcend the boundaries they imply.

Hypothesis 1 also tested the effect of other demographic variables on

knowledge sharing, and no differences were found. The finding that females did not practise knowledge sharing more than males can be explained in two broad ways. First, the affiliative or consideration-based style attributed to women might exist in the study group but might not apply to knowledge sharing. That is, women might not consider sharing knowledge to be part of affiliation. Operational knowledge itself was inherently cognitive and might not be seen to assist relationship-building. A second possibility is that women did not have work or management styles that differed from men. Possibly research conducted in other industries, corporate cultures and national cultures did not generalise to international chain hotels in Taiwan. Further research on the existence of such stylistic differences in this group is needed. However, it can be concluded that efforts to build knowledge sharing in this group do not need to differentiate on the basis of gender.

Regarding tenure in the industry and hotel, it was hypothesised that employees with less tenure would have more favourable attitudes since they are less influenced by anti- sharing cultures and practices that have been around a long time, and were expected to be antagonistic to change. However, the results suggest that there was no such conservative force acting in this population. It seems that these hotels have embraced knowledge sharing to a strong degree and that new employees did not meet resistance in participating fully in this. This is a good sign for managers in this industry.

It was also expected that staff members with higher education would have more favourable attitudes to sharing, as education may have bought them into contact with the concept or more generally given them a more favourable attitude towards the role of knowledge in business. It is worth noting that differences between means tended in the predicted direction, although failed to reach statistical significance in this sample. This may be an area for further investigation, and managers should be cautious about treating education as irrelevant to knowledge sharing attitudes. At the same time, it was not a variable that indicates an opportunity for easy attempts to increase sharing, so little may be lost by ignoring it.

Older employees were expected to have more favourable attitudes towards sharing because, as with better educated employees, they would be more likely to see the links between sharing and business success. No difference was found, which may indicate that younger employees do already have such a view. This would be consistent with the finding that newer employees had as favourable attitudes to sharing as older ones.

Overall, the lack of differences between the demographic groups other than those defined by hierarchical positions can be seen as a sign that attitudes towards improved knowledge sharing were quite strong across all employees. It is important to qualify findings of statistical insignificance with the possibility that a bigger sample or better measurement may have produced the hypothesised result. However, the sample in this study was quite large and constructed to match the presumed population characteristics, so it should be reasonably efficient. It is noteworthy that the means were all quite high, between five and six on the seven-point scale. The conclusion is that employees were generally quite favourable and there was little room for differences in attitude. Managers should consider this a positive finding in that it describes a ready climate for increased knowledge sharing.

6.3.2 PREFERRED MEDIA FOR KNOWLEDGE SHARING

A number of previous studies (e.g. Nonaka & Takeuchi, 1995; Tsai & Ghoshal, 1998; Davenport & Völpel, 2001) indicate that social interaction would be preferred over more formal training programs because social interaction can effectively enable people to acquire and transfer not only explicit but also tacit knowledge. Respondents were asked about the media by which they preferred to share knowledge.

Results (Table 5.9) show that employees preferred to share knowledge through spontaneous circumstances (mean = 6.132). A number of more formal media were rated less important but fairly equal in value: mentoring programs (mean = 5.734), formal meetings and inter-shift briefings (mean = 5.707), cross departmental training (mean = 5.685), training sessions (mean =5.649) and organised social events (mean = 5.647). Informal gatherings were clearly least

preferred (mean = 4.575).

These results support Hypothesis 2b, that spontaneous sharing was most effective. Organised events, whether training, social activities or meetings, might be ineffective because they come with different agendas. For example, meetings may aim to cover knowledge sharing but this may not be the sort of knowledge employees wish to share. Training programs may present a similar problem, and social occasions may not be conducive to sharing task information. The preference for spontaneity supports McDermott and O'Dell's (2001) conclusion that "people would share ideas and insights because they see it as natural, rather than something they are forced to do" (p.77). Managers would be wise to encourage informal and spontaneous interactions. This may require challenging norms about spontaneous communication being 'slacking off' or disruptive. A learning organisation (Senge, 1990) needs to accept employees' insights into the best media for sharing knowledge.

A less expected finding was that meetings and training programs were preferred over informal social gatherings (Hypothesis 2a). This may appear contrary to a number of previous studies reporting that social interaction facilitates knowledge sharing (for instance, Michael, 1997; Tsai & Ghoshal, 1998; Argote & Ingram, 2000; Davenport & Völpel, 2001). The present results, however, show that the social nature of activities was less important than their spontaneity. The results also show that formal social events were considered favourable where informal ones were not. This might be because social activities in this population were not seen as enjoyable (as revealed in the pilot study), did not happen often enough for effective sharing, or because the nature of these events did not facilitate sharing of task information. It is important that researchers examine in more detail the varieties of social encounters that support knowledge sharing, and consider whether differences in industry practices and national cultures may account for perceived differences.

6.3.3 FLOW OF KNOWLEDGE

Respondents were asked how they were most likely to deal with new knowledge. The purpose of this analysis was to determine the extent to which the

knowledge management and organisational learning concepts were employed in this population (Exploratory Question 2). A number of options relating to sharing and use were presented in the questionnaire. Three possibilities for sharing involved: no sharing, sharing with other individuals and sharing at an organisational level.

In Table 5.10, a small group (16%) selected "write it down in a certain place" which describes no gain to the workgroup or organisation. Further, the likelihood of an individual remembering and using the information may not be strong if it is just written down. Other responses showing little systematic knowledge management were 'think about it' (11%) and 'share with others' (7%). Overall, around a third of respondents could be classified as working at the least sophisticated level of knowledge management.

A larger group both shared knowledge with colleagues and thought about it (6%), and tried it out, either before sharing (15%) or after (12%). This second level of knowledge management, also involving one third of employees, results in effective experimentation and sharing between individuals. Even if new knowledge is not workable, and a person does not share it, this allows organisational learning in the sense of not passing on unworkable information. However, recording and sharing an instance of something that did not work can prevent people wastefully trying the same thing in future.

A third group of respondents performed 'thinking', 'discussing' and 'applying' activities and either reported new workable knowledge to superiors (8%), or reported it to superiors and updated organisational documentation (e.g. SOPs) if appropriate (24.8%). Both responses address organisational learning. The latter maximises such learning and represents full implementation of the knowledge management concept at all levels – individuals, workgroups and organisation – and in terms of the processing and application of new knowledge. This level of knowledge management was also noted in the pilot study. In particular, Company A applied 'feedback', 'think-rethink', 'reflection' and 'change' phases of organisational learning.

It is highly significant that only about one quarter of the respondents carried out KM and organisational learning to the full extent. Although the results discussed above show staff were generally quite open to sharing knowledge and able to identify effective ways of doing so, top managers face a big challenge to stimulate and facilitate their staff to proceed to the highest level of KM. It is likely that the results show that a major opportunity to improve business performance exists.

6.3.4 ATTITUDE TO LEARNING

Respondents were asked about their attitudes to learning from past performance and learning about new knowledge. The purpose of this analysis was to test hypotheses about the role of demographic variables in differentiating attitudes towards learning (Hypothesis 3). These hypotheses are very similar to those describing attitudes towards knowledge sharing (Section 6.3.1).

The results were also similar to those for attitude to sharing. None of the demographic groups except those defined by organisational hierarchy showed a statistically significant difference. The hierarchy results show that attitudes of top and middle level staff were significantly more favourable than those of front-line employees. This presents a clear challenge to both top and middle managers, to increase front-line employees' awareness of the importance of individual learning, and as noted above, of sharing knowledge as part of that process.

The failure of the other hypotheses to be supported can be explained in similar terms to those outlined in Section 6.3.1. As age was only just non-significant at the 0.05 level, and the means were in the directions hypothesised, this variable may represent an area for further investigation. Length in the industry is in the same category, although the means are in the opposite direction to Hypothesis 3e.

As with attitudes to sharing, attitudes to learning were strongly favourable, producing means of 5.3 to 5.6 on a seven-point scale. It would appear that, of all the possible groups to target in improving knowledge sharing and learning generally, front-line employees are the most important. Not only are they the least

involved in these practices, but because they are closest to customers, they are also the source of information of most potential value to organisational effectiveness.

6.4 KNOWLEDGE SHARING PRACTICES

6.4.1 CONTENT OF KNOWLEDGE SHARING

The type of knowledge shared is obviously a critical aspect of any knowledge management program. This section examines the frequency of each, and tests whether operational and strategic knowledge types are shared differentially at different levels of the hierarchy, as indicated by Hypothesis 8.

As shown in Table 5.14, the most commonly shared types of knowledge were details of products and services (mean = 5.461), ways of dealing with situations (mean = 5.339) and problem-solving approaches (mean = 5.333). These three are all of great value to the operational efficiency, service quality and market responsiveness of an organisation, and this result should be encouraging to managers in this industry.

Interestingly, knowledge about customers – their requests, complaints, praises and preferences - was shared less often than the product and operational issues. This may indicate an appropriate emphasis on business knowledge and processes, as long as critical information concerning customers is also passed on and acted upon.

Four types of knowledge were much less shared than product, operational, or customer knowledge. These involved government regulations (mean = 3.792), future trends (mean = 3.996), competitors' performance (mean=4.347) and competitors' strategies (mean = 4.002). A factor analysis (Table 5.15) confirmed that respondents treated these four items consistently and differently to the others, and supports the distinction between operational and strategic issues.

Statistical tests of the differences in sharing of operational and strategic knowledge were performed for front-line, mid-level and top management staff

(Table 5.17). These showed no difference for top management, and greater sharing of operational knowledge for lower and middle levels. The lack of sharing of strategic knowledge amongst front-line and mid-level staff supports the finding of the pilot study. It suggests that front-line service providers - including rank-and-file, supervisory and managerial staff members – perceive they do not require such knowledge to satisfy their customers, ensure service quality or retain customer loyalty.

This result is not surprising. Bailey and Clark (2000, 2001) indicate the different domains of organisational knowledge required at different levels. Top management, including senior executives and departmental/functional managers, are concerned about strategic knowledge associated with future-forward opportunities for organisational advancement, or with strategies to move existing operational performance towards future goals. Mid-level employees and front-line staff are more concerned with operational matters. However, Bailey and Clark's distinction is not fully supported in this study. Table 5.17 shows that while front-line and mid-level employees favoured operational knowledge more than strategic knowledge, as expected, top management equally favoured both types. It appears that in international tourist hotels in Taiwan, employees right across the organisation shared operational and customer-related knowledge. Interestingly, in the pilot study, about 80% of top management executives of the four researched hotels preferred to share with their managerial colleagues events and developments in their external environment, i.e. strategic knowledge.

There are several explanations for this. First, international tourist hotels compete on service quality and are extremely sensitive to customer perceptions. More than many other industries, or segments of the hospitality industry, top managers often need a close interest in operational issues to do with quality and service. Such staff nearly always have offices in the hotel and are constantly in contact with the various departments, allowing managerial employees to perform 'management by walking-around'. Second, managers at this level in many industries may be unwilling to admit they do not have significant operational knowledge, as this may produce concern (in their own minds) of inadequate job knowledge. Third, there may be differences in national cultures that influence

managers' perceptions about the importance of being in touch with operational issues. Whether the international tourist hotels reflect local cultures or have evolved a multi-national 'global' culture is also relevant here.

If this finding is taken at face value, it suggests a positive orientation towards organisational effectiveness and performance in terms of top management attention to customer satisfaction and quality of services as well as strategic knowledge. Presumably, this dual emphasis helps development of operational tactics for improving performance goals, what Bailey and Clark call the knowledge domain of "performance management". However, this type of knowledge is elsewhere the focus of mid-level and front-line managers, not top management executives who tend to emphasise strategic knowledge. It is difficult to tell from the questions asked of respondents whether top management spend too much time on operational issues, or conversely whether lower-levels of management have insufficient involvement in knowledge management in this area. This appears to be an important area for future investigation.

As well, Table 5.17 shows that mid-level and front-line staff shared less in strategic knowledge. This is expected, but does raise the question of whether employees at these levels have sufficient knowledge of the hotels' key strategic emphases. The scores for strategic knowledge sharing amongst these lower levels do not indicate very low levels of such knowledge, although this question cannot be answered precisely from the present survey items.

In summary, employees at different levels of the organisational hierarchy do focus on different types of knowledge. However these are intertwined, and further research is needed to confirm whether lower level managers have a sufficient stake in operational knowledge management and whether they and their employees have sufficient knowledge of strategic matters. The results here do suggest that it could be helpful for top management staff to put more effort into sharing strategic knowledge for the creation of future competitive advantage, rather than engaging in daily routines, i.e. a more strategic focus for the whole hotel would improve long-term success.

6.4.2 MEDIA FOR KNOWLEDGE SHARING

Respondents were asked to report on how often they used each of a large number of possible media for sharing knowledge (Exploratory Question 3). A factor analysis (Table 5.19) showed that these media can be grouped into four factors: Conversation, Outside Arrangements, Documentation and Hotel-Arranged Activities.

6.4.2.1 Conversation

The Conversation factor shows that the most commonly used media involved conversations with co-workers, subordinates, superiors, staff working for other hotels and customers (see Table 5.21). This result supports Dixon (2002) who finds that people effectively using social techniques to conduct knowledge sharing often spend a lot of time on conversation. McAdam and Reid (2001) also indicate that informal discussion is a favoured medium for sharing tacit knowledge. Similarly, Nonaka and Takeuchi (1995) indicate that social interactions are the most useful way to transfer knowledge from tacit to explicit forms. Conversations are likely to be a good way to do this and, as noted earlier, employees believe sharing should happen spontaneously. For Senge (1990), effective dialogues involve listening to one another and exploring perspectives and views without critique in a free and trusting atmosphere. The present results and these theoretical considerations indicate that managers should foster a workplace environment where friendly, open communication and trust stimulate and facilitate one's colleagues and subordinates to spontaneously share knowledge in conversation.

In particular, conversation with *co-workers* was the most popular medium. In reality, many hotel managers focus on collecting information from customers (including food and beverage patrons, room guests and company suppliers) and are prone to ignoring information and knowledge from internal customers, i.e. company employees. Many employees have extensive guest knowledge and/or had prior employment with other hotels, a body of experience that is often overlooked. Managers should ensure appropriate opportunities for conversations with and amongst front-line employees.

An informal discussion forum refers to an organizational mechanism which

connects organisational members with structures and systems. This mechanism is easy for members to access in any circumstance. It may include physical approaches (e.g. workshops, networking, an opportunity for group members to brainstorm, etc.) and any electronic devices (e.g. on-line chats, e-mails, intranet, etc.). This forum aims to provide opportunities and equipment for members to access resources.

6.4.2.2 Outside Arrangements

Activities organised by outside hotels, such as training sessions or social activities, require participants to pay for themselves. Hotels normally do not finance attendance unless the event is considered particularly good for organisational advancement. Consequently, employees seldom participate in these arrangements. The Outside Arrangements factor had the least use. Despite this, managers should encourage attending industry gatherings, trade shows and site inspections of other hotels as these support knowledge sharing across the industry.

6.4.2.3 Documentation

A less frequently used medium involved documentations such as the hotel computer system, Internet, Intranet and reading materials. Interestingly, standard operational procedures (SOPs) were not included in this factor, since a majority of the hotels write SOPs in manuals.

6.4.2.4 Hotel-Arranged Activities

Activities arranged by hotels were, as expected, less used, being conducted approximately quarterly or bimonthly. In particular, workshops, skills competitions and training programs were normally scheduled quarterly in these hotels, although departmental managers and supervisors run on-the-job training once every week or two weeks, as revealed in the pilot study.

6.4.2.5 Social Activities

The two social activities listed in this section of the questionnaire had very low mean scores, covering events arranged by hotels (2.942, see Table 5.21) or outside organisers (2.092). This is consistent with the findings reported above (Section 6.3.2, see also Table 5.9) showing social activities as less important than

expected. As suggested in the pilot study, employees may be wary of knowledge sharing reducing the pleasure of social activities. Managers and knowledge management experts need to be careful about the use of social events for creating 'communities of practice'. Informal and conversational opportunities appear to be more sought by employees. Such opportunities allow sharing of both tacit and explicit knowledge.

At the same time, many authors agree that social interaction develops trust and trustworthiness (e.g. Nonaka & Takeuchi, 1995; Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998; Lesser & Prusak, 2000; Tsai, 2002). Managers should therefore see social events as important opportunities for building teams and networks. They should keep in mind this purpose, and allow individuals to *share* knowledge through conversations and spontaneous face-to-face interactions.

6.4.3 OBSTACLES TO KNOWLEDGE SHARING

Respondents were asked to report on what factors inhibited them in sharing knowledge with their colleagues (Exploratory Question 4).

6.4.3.1 Overview

The literature review noted many studies on obstacles to knowledge sharing, including lack of motivators such as attractive or appropriate rewards (Hiebeler, 1996; Szulanski, 1996; Hendriks, 1999; Cameron, 2002), a climate unsupportive of sharing (Hendriks, 1999; McDermott & O'Dell, 2001), and the presence of inter-departmental or team rivalry (Chapman & Ferfolja, 2001; Goh, 2002). These studies were based in knowledge- or IT-based industries such as finance and management consultancy, with quite different characteristics to the present study.

The result reveals that the 'reward' factor was a minor impediment, as evidenced by low mean scores when respondents were asked to rate the importance of such an obstacle (Table 5.22). This result echoes Hislop's (2003) view that individual attitude is more important to knowledge management than motivation. Thus, managers should concentrate on figuring out how organisational members want to improve work systems and cultures, rather than looking towards additional motivators such as financial rewards.

6.4.3.2 Time

The most highly rated impediment to sharing knowledge was insufficient time to share. This was expected, since many respondents in the pilot study had raised it. This finding also conforms with studies in other business sectors (for example, Mayo, 1998; Cameron, 2002). It was further expected as hotels in Taiwan have faced a very difficult time in the past few years, with SARS, changes due to business process reengineering, advanced IT applications, downsizing, loss of skilled employees through early retirement schemes, incentives for taking leave, and other policies minimising manpower. Consequently, there is often a shortage of labour and little time for knowledge sharing.

The lack of time for knowledge sharing suggests managers could examine levels of manpower in order to increase competitiveness. While hiring more staff has a cost, when only one quarter of staff are fully engaged in knowledge sharing and organisational learning (Section 6.3.3), and employees rate time the major impediment to improvement, it may be opportune to reassess priorities. In a highly competitive environment, improving knowledge management may have great economic value.

6.4.3.3 Difficulties in Understanding Operational Knowledge

The second obstacle (mean = 4.118) on the list was difficulties in "understanding operational knowledge". As noted in Section 6.4.1, the most common sorts of knowledge shared included 'ways of dealing with situations' and 'problem-solving approaches'. There would be many 'ways' and 'approaches' to operational problems that need to be shared, and it is understandable that employees would rate this impediment highly.

The literature review noted Chapman and Ferfolja's (2001) view that inconsistent or ambiguous operational circumstances might cause employees to develop individual interpretations and solutions to problems. If contradictory solutions are then disseminated through organisational communication channels, knowledge 'receivers' might engage in contradictory or confused behaviour. Human resources managers and departmental managers should consider

opportunities for employees to speak out, share and discuss their solutions to problems in work groups. Managers could then take on the role of integrating these ideas into the organisation's common knowledge, minimising inconsistency and ambiguity.

6.4.3.4 Overload of Knowledge

The next considered obstacle was overload of job-related knowledge (mean =3.990). Job related knowledge in the hotel business concerns not only routines, but also handling inconsistent or ambiguous situations as mentioned above. This means that it is often quite difficult for junior staff members to grasp all the required information at once. Sharers sometimes do not know what knowledge they should share first, and sharees do not know what knowledge needs to be collected and absorbed first. This obstacle was highlighted in Szulanski's (1996) study.

6.4.3.5 Difficulties with the Application of Past Experience in Today's Situations

"Difficulties with the usefulness of past experience in today's situation" (mean=3.441) was another obstacle. This relatively low mean score could be interpreted to indicate that many past experiences can still be applied to today's situations. This finding reinforces Yelle's (1979) saying that the impact of past experience on current organisational operation could be useful. However, in the pilot study, some interviewees said that this difficulty might be caused by the 'tacit' nature of the past experience. The 'tacit' feature is also mentioned in Baum and Ingram (1998).

This obstacle might be associated with the issue of individual absorptive capacity. If sharees do not possess this capacity, how do they capture and reflect the underlying meaning of the past experience and hence adapt to a new circumstance? Thus, sharees might feel that it was difficult to learn things from the past.

This result implies that encouraging senior employees to share their past working experience in failures, successes and difficulties is still workable. The

results shown in Table 5.22 together those in with Table 5.9 indicate that superiors can arrange interactive opportunities for sharing, and that inviting senior employees to join mentoring programs might be effective.

6.4.3.6 Spare Time Activities at Work

Respondents were asked to rate a number of items describing possible uses of 'slack' or slow times (Table 5.23). The most common response was that there was no spare time (mean = 5.096), followed by cleaning the workplace (mean = 5.002), discussing and analysing guest's complaints and requests (mean = 4.926) and training junior colleagues (mean=4.695). The latter two results show quite good implementation of knowledge sharing and individual learning. However, the first two results do not favour knowledge sharing. Again, managers should consider whether sufficient time is available for knowledge management, which may mean looking at manpower issues.

6.4.4 APPROACHES TO KNOWLEDGE STORING

The previous sections have examined individual learning and sharing and this section turns to storage systems. The focus in this section is on 'hard' systems (Table 5.24), such as the SOPs manuals, departmental logbooks, filing systems, computer systems and training reports. The aim of the analyses was to determine the most common methods (Exploratory Question 5) rather than test hypotheses.

The most commonly used storage systems were SOPs and departmental logbooks or sales reports. Hotel computer systems and intranets were relatively less used - this may be for a variety of reasons including access, staff knowledge and failure to develop systems for encoding knowledge in software, as revealed in the pilot study. Overall, storage systems appear quite traditional in today's IT-based global economy, especially given that these are international tourist hotels, part of global chains in which sophisticated knowledge sharing might be expected.

It is also interesting that training reports were seldom used in practice. Such reports are often required after training programs in other industries, to enable trainees to reflect on what they have learnt from the programs. Reflection is considered important to transferring individual's learning to useful knowledge. In

the pilot study, Company C required training participants to submit a report, including a copy of all training materials, to the human resource department after returning to their hotel. Participants in human resource development and training activities, including training attendants, trainers, human resource specialists and departmental managers, should be concerned about the lack of opportunity to reflect and report.

6.5 INVESTIGATION OF HYPOTHESISED RELATIONSHIPS

The sections above describe many variables affecting knowledge sharing and organisational learning. The major aim of this study was to develop a comprehensive theory of KM. The literature review identifies three contributing constructs: individual attitudes to learning and sharing, organisational culture (emphasising on collaboration), and leadership roles (Figure 3.1). The first of these constructs is broken down into four constructs: competencies, and attitudes to knowledge sharing, knowledge storing and learning. This theory was empirically examined in terms of the five linear relationships shown in Figure 3.1 and summarised in Table 6.1.

TABLE 6.1 Summaries of Regression Models

	Criterion Variable	Predictor Variables
Model 1	Knowledge Sharing	Individual Competence, Individual Attitude to Learning, Sharing and Storing
Model 2	Knowledge Sharing	Leadership Style (Facilitator, Mentor, Innovator, Broker, Producer, Director, Coordinator and Monitor Roles)
Model 3	Knowledge Sharing	Organisational Culture emphasising collaboration (Work groups, Immediate Superiors and Business Units)
Model 4	Organisational Learning	Knowledge Sharing
Model 5	Organisational Effectiveness	Knowledge Sharing and Organisational Learning

6.5.1 INDIVIDUAL BEHAVIOUR AND KNOWLEDGE SHARING

The literature review indicates that certain individual competencies, along with positive attitudes to sharing, storing and learning, should be associated with

high levels of knowledge sharing (e.g. Baum & Ingram, 1988; Argote & Ingram, 2000; Zollo & Winter, 2002; Cameron, 2002; O'Dell & Grayson, 1998). These variables are examined in Hypotheses 4, 5, 6 and 7. The results (Table 5.25) support all four hypotheses, with attitudes to learning and sharing having the highest correlations with knowledge sharing. Results of regression analyses (Table 5.26) show that the three attitude variables, but not competencies, were significant contributors to the prediction of knowledge sharing, although individual competencies were only just insignificant ($p = 0.058$). The strongest predictors were attitude to sharing and attitude to learning, with attitude to storing making minor contributions.

These results show that it is crucial to nurture individuals' willingness to learn and to share in developing an organisational knowledge management system (Baum & Ingram, 1988).

6.5.2 LEADERSHIP ROLES AND KNOWLEDGE SHARING

Previous studies (e.g., McDermott & O'Dell, 2001; Grandori & Kogut, 2002) reveal that leaders play an important role in nurturing a healthy work atmosphere for subordinates. This study examined the eight leadership roles identified by Quinn (1988), relating each to the criterion variable of knowledge sharing. The leadership roles - facilitator, mentor, innovator, broker, producer, director, coordinator and monitor – were measured using a 16-item instrument developed by Quinn (1988).

The literature review (Cameron, 2002; Roth, 2003) suggests that mentor and facilitator leadership roles would be most positively associated with organisational knowledge sharing (Hypothesis 9). These roles were indeed significantly and positively related (Table 5.27), and were the largest contributors to the regression equation (Table 5.28). This echoes the pilot study, as it showed success in nurturing a sharing culture required leaders to play a mentor role, and supplements the findings of Roth (2003), who emphasised the contribution of facilitating and coaching leadership styles to positive KM practices, and Cameron (2002), who suggests that mentoring and inspiring leadership facilitates KM.

Interestingly, the monitor role negatively affected the regression equation, indicating that monitoring reduced knowledge sharing. This finding is consistent with Palmer (1998) and Grandori and Kogut (2002), who find that 'command and control' organisations would impede the development of KM practices.

The innovator role was also strongly and positively correlated with knowledge sharing, but only weakly contributed to the regression equation after the three above variables were entered. This indicates that much of its predictive power can be explained by the preceding roles. Four roles were excluded from the equation: producer, director, coordinator and broker.

The regression model suggests that components of facilitator and mentor were crucial, and an innovator role could make a minor contribution to knowledge sharing. Managers should ensure that facilitating and mentoring roles are cultivated when setting up knowledge management systems. These roles are classified in the human relations (HR) quadrant of Quinn's framework (Quinn & McGrath, 1985). They are underpinned by the concept of human interaction and emphasise affiliation, morale, cohesion and harmony in the workplace. Consequently, in practice leaders should attend to the personal difficulties of their staff, showing empathy and concern. The HR quadrant of Quinn's model also emphasises internal flexibility, in terms of which individuals collectively share with others and organisations promote teamwork, involvement and employee supports. An HR focus will stimulate subordinates' involvement in decision-making and use of consensus in work groups. These outcomes would be consistent with what employees valued in the attitudes towards learning and sharing discussed in earlier sections.

Innovation should also be encouraged, so that leaders handle situations and deal with difficulties creatively and with an eye to future markets and strategic opportunities. Innovation should also help decision making continuously adapt to changes in the external environment.

Conversely, managers should discourage monitoring when developing a KM culture. Monitoring involves overuse of formal policies, standard operational

procedures and job specifications and descriptions. Employees may feel coerced or threatened with punishment. Control regulations and rules creates negative impacts on individual willingness to share and hence on organisational knowledge sharing.

6.5.3 ORGANISATIONAL CULTURE AND KNOWLEDGE SHARING

An important part of the theory of knowledge management described in Figure 3.1 is the relationship between organisational culture and knowledge sharing. Organisational culture in this study has an emphasis on collaboration, based on the proposition of Sveiby and Simmons (2002). It was measured by three constructs, the extent of support for sharing offered by: an individual's work group; immediate superior; and business unit. Each concept was based on five items describing the 'enabling' characteristics of organisational culture: fostering trust surrounding the workplace; encouraging knowledge sharing in action not words; promoting introduction of new knowledge into the organisation and development of insights and innovations for future success; stimulating employees to say what they think; and building open communication channels throughout the organisation.

The results show a significant and strongly positive relationship between the three independent variables and knowledge sharing (Hypothesis 10): the more support for collaboration at each level, the greater the knowledge sharing. Work group support showed the highest correlation (Table 5.29). Results of a regression analysis show that the three independent variables explained a high 74% of the variance in knowledge sharing (Table 5.30). Work group support made by far the strongest contribution of the three predictors.

The strength of this relationship - which is higher than that found for the individual competencies and attitudes towards KM discussed above - is an important result. This reinforces earlier findings of the present study that spontaneous conversation with co-workers was the most popular medium for sharing knowledge in these hotels, and that neither formal meetings nor social events substituted for such close working relationships. It is also very consistent with the value placed on mentoring and facilitating leadership roles. Managers

implementing KM need especially to create a climate of support in work groups closest to employees.

6.5.4 KNOWLEDGE SHARING, ORGANISATIONAL LEARNING AND ORGANISATIONAL EFFECTIVENESS

The theory in Figure 3.1 relates knowledge sharing to organisational learning, and both these concepts to organisational effectiveness, testing statements by many authors in the KM literature (e.g. Petrash, 1996; Parlby, 1998; Gupta & Govindarajan, 2000; Olivera, 2000; Storck & Hill, 2000).

6.5.4.1 Knowledge Sharing and Organisational Learning

These variables were very highly correlated (r = 0.855, Table 5.31). The regression equation testing Hypothesis 11 shows a significant relationship (Table 5.32), with knowledge sharing, explaining 39% of the variance in organisational learning, a moderate level. This result supports the view that knowledge sharing is closely related to organisational learning (e.g., Spinello, 2000; Loermans, 2002; Hwang, 2003). Knowledge sharing enables individual learning to flow through the entire organisation and thereby to become organisational learning.

However, the moderate strength of the present result might indicate that some shared knowledge still remained with individual sharees and did not get converted into *organisational-level* knowledge, or that sharees did not reflect on and refine learning experiences into *knowledge*. Managers in these hotels might look at developing systems for facilitating organisational-level learning, and for retaining such knowledge in organisational repositories. Without these, knowledge sharing will not contribute fully to organisational effectiveness: experiences or knowledge might be transferred to other individuals through conversations, and some team members might use transferred knowledge in routines, but this will not be retained in ways that transcend employee turnover leadership and ownership change. As Wagner (2003) puts it, "organisations learn haphazardly from experience and rarely capture it in ways that can be transformed into available knowledge embedded in the organisational memory" (p. 98).

Thus, the present result highlights the need for more integration of shared

knowledge into organisational assets or capability. Beyond creation of such assets lies a further need to appropriately use individual values, beliefs and absorptive ability to determine the future usefulness and value of organisational knowledge (Davenport & Prusak, 2000; Seng et al., 2002). This step goes beyond the scope of this study.

6.5.4.2 Knowledge Sharing, Organisational Learning and Organisational Effectiveness

The most important components of the theory in Figure 3.1 are the relationships of key KM constructs to organisational effectiveness: the concept of KM is fatally flawed if it does not contribute to business outcomes. Although objective measurement of business outcomes by researchers is difficult, a common and practical alternative is to assess employee's perceptions of organisation-level effectiveness in different organisations or units and to relate that to predictor variables.

These results provide important empirical contributions to the literature. A relationship between knowledge sharing and organisational effectiveness has been hypothesised by many authors (e.g., Caddy et al., 2001; McDermott & O'Dell, 2001; Li & Gao, 2003). Similarly, many have predicted that organisational learning will affect organisational effectiveness (e.g., Petrash, 1996; Gupta & Govindarajan, 2000; Olivera, 2000). However, previous studies do not offer much empirical evidence for these links. The present study involves a large sample, a comprehensive definition of key constructs and a systematic attempt to measure these. While this study examined hotels in Taiwan, it provides an important confirmation of the general relationship between these three variables.

The results (Table 5.31) show that knowledge sharing and organisational learning were strongly correlated with organisational effectiveness ($r = 0.739$ and 0.855 respectively). (Hypothesis 12) These two constructs were entered into a regression, where both were significant predictors, accounting for 80% of organisational effectiveness (Table 5.33). The beta coefficients show that organisational learning contributes almost twice as strongly as knowledge sharing. This may reflect the idea that organisational learning is a broader and higher level

construct than knowledge sharing, providing more sources of value to the organisation.

The strength of the relationships that knowledge sharing and organisational learning have with organisational effectiveness is also evidence that managers need to take them seriously. With four fifths of variation in effectiveness explained by organisational learning and knowledge sharing, it can be seen as a powerful source of competitive advantage. Other aspects of this study suggest that managers seeking such advantage should look to building up climates of trust and collaboration, and to maximise opportunities for spontaneous transfers of knowledge. In doing this, they should recognise that employees at all levels want to share knowledge and have an open attitude towards learning.

6.6 SUMMARY

Many of the hypothesised relationships in Figure 3.1 were supported. Individual attitudes to learning, sharing and storing knowledge were found to influence knowledge sharing. Sharing was also influenced by an organisational culture which focuses on collaboration in work groups. In addition, the outcomes of knowledge sharing and organisational learning significantly contributed to organisational effectiveness. These results reinforce and provide new empirical evidence for findings and predictions from previous studies.

However, two hypotheses were rejected, with findings contrary to previous studies. First, respondents did not favour sharing knowledge during social interaction. Sharing task or job knowledge appears to spoil organised social interactions, and employees prefer unplanned, spontaneous interactions. Second, although the results show that knowledge sharing significantly contributed to organisational learning, the extent of this statistical significance was only moderate. This is likely to be due to lack of individual absorptive ability.

Two other significant results supplement previous studies. First, the leadership roles of mentor, facilitator, and innovator significantly contributed to

knowledge sharing, while the monitor role appears to actively discourage sharing. Broker, producer, director and coordinator roles did not significantly affect knowledge sharing. Second, while a supportive climate improved knowledge sharing at the levels of business unit, immediate superiors and work group, the present findings show that climate at the work-group level had the most significant impact.

CHAPTER SEVEN: CONCLUSIONS, FURTHER RESEARCH, IMPLICATIONS AND LIMITATIONS

The general aim of this study was to investigate the extent to which knowledge sharing is practised in international tourist hotels. The study sought to provide managers with evidence of the nature of KM practices and the difficulties of its implementation. A conceptual aim was to explore hypothesised relationships between three independent variables - individual behaviour, leadership roles and organisational culture - and the dependent variable of knowledge sharing. It also examined the effect of knowledge sharing on organisational learning, and both of these variables on organisational effectiveness. These relationships form a comprehensive theory of knowledge management.

This Chapter draws conclusions for theory and practice, and outlines implications for theory development, further research and management practices. Limitations to this study are also discussed.

7.1 CONCLUDING REMARKS

7.1.1 INDIVIDUALS' KNOWLEDGE SHARING ATTITUDES AND BEHAVIOURS

The study looked at the impact of demographic variables on knowledge sharing and learning, individually preferred media for knowledge sharing and the influence of individual behaviour on knowledge sharing.

The results show that employees were generally willing to share their knowledge with others. The demographic variables of gender, age, education level, tenure in the hospitality industry and hotel, and departmental environment did not significantly influence individuals' attitudes to learning and sharing. These results suggest that top and middle management staff can build on front-line employees' awareness of the importance of individual learning and knowledge sharing.

The most preferred media for sharing knowledge was spontaneous face to

face sharing, while the second most preferred involved mentoring and training programs. The empirical evidence of this study shows that planned social interaction was not strongly conducive to knowledge sharing. This suggests that an organisation should arrange social activities to strengthen interpersonal relationships and mutual understanding amongst participants, as this would enable employees to feel more open to discussing job-related matters during working hours.

However, although individual attitudes to sharing, storing and learning were correlated with knowledge sharing, the extent of these relationships was only moderate. That is, sharing is an outcome of more than just a positive attitude. Some of the additional factors behind sharing are explored below.

The major conclusions of this study concerning influences on knowledge sharing practices are that managers have to strengthen the social ties amongst employees, and then use these ties to stimulate and facilitate employees towards the highest level of knowledge sharing, individual learning and organisational learning through spontaneous interactions and social encounters.

7.1.2 KNOWLEDGE SHARING PRACTICES

This study sought to examine knowledge sharing practices in four areas: the sharing of strategic information by managers, the media used for knowledge sharing, obstacles to knowledge sharing, and approaches to knowledge storing.

The nature of the hotel business requires that the majority of employees, including top management, frequently share operational knowledge such as details of products and services and customer-related knowledge. However, this study suggests that greater long-term success could arise if top management also put more emphasis on sharing strategy-oriented knowledge.

The most popular medium for knowledge sharing was conversations, especially with co-workers, and this was followed by the use of information systems. However, the result of the pilot study suggests that an organisation has to educate and train those who are unfamiliar with operations of information systems

if they are to be fully effective tools for acquiring and sharing knowledge.

In investigating obstacles to practising knowledge sharing in the hotel industry, a major concern was lack of time allowed for sharing, which suggests that managers need to reassess levels of manpower if they want to maximise the economic value of knowledge sharing. A second prominent obstacle was 'difficulties in understanding operational knowledge while sharing'. In order to address this, managers could arrange opportunities for employees to speak out, share and discuss their solutions to problems in work groups, and then take on the role of integrating these ideas into the organisation's common knowledge.

At the time of this study, respondents in the researched hotels still mainly rely on written documents for storing and retrieving organisational knowledge. Information systems were less used; this appears to be an opportunity for improvement in knowledge sharing.

The major conclusions from this study concerning knowledge sharing practices in the Taiwanese hotel industry are that it does not sufficiently involve strategic information, is best mediated by informal conversations, is often adversely affected by lack of time, and does not sufficiently use IT storage media.

7.1.3 LEADERSHIP ROLES AND KNOWLEDGE SHARING

The study examined the relationship between leadership roles and knowledge sharing. It concludes that when establishing knowledge management systems, facilitating and mentoring roles were most useful, supporting results of previous studies. In addition, the study shows that leaders should also play innovator roles and should be discouraged from overly monitoring staff.

7.1.4 ORGANISATIONAL CULTURE AND KNOWLEDGE SHARING

Organisational culture has been considered in the literature, an important contributor to knowledge sharing. This study measured these variables, and found that the aspects of organisational culture that contributed to knowledge sharing were: top management commitment and support, trust amongst co-workers, managerial involvement in the knowledge sharing practices, the encouragement

of creative ideas and insights, and open communication channels throughout an organisation.

This study measured the extent to which a culture provided support at three different levels: an individual's work group, one's immediate superior and the business unit. The results showed that it is especially important to foster the attributes of an environment conducive to knowledge sharing in work groups. The hotel industry would do well to consider more formal support for the development of work groups as a means of fostering knowledge sharing.

7.1.5 KNOWLEDGE SHARING, ORGANISATIONAL LEARNING AND ORGANISATIONAL EFFECTIVENESS

The relationship between these three variables was a major area of interest in this study. The literature suggests that both knowledge sharing and organisational learning significantly contribute to organisational effectiveness. This study confirmed this and showed that organisational learning has a greater impact on organisational effectiveness than knowledge sharing.

The study also showed a weak relationship between organisational learning and knowledge sharing. This suggests that shared knowledge is often retained by individual sharees rather than being placed in organisational systems. Consequently, such knowledge makes a limited contribution to organisational learning.

This study therefore provides empirical support for the proposition, widely espoused in the knowledge management literature, that organisational learning contributes to organisational effectiveness. However, it also suggests that sharing of individual knowledge in a way that converts it into enduring organisational capabilities or assets, presents a problem for effective knowledge management in many international tourist hotels in Taiwan.

7.1.6 SUMMARY

There was a strong awareness of knowledge sharing in the researched hotels. This study concludes that in order to accomplish best practice in knowledge

sharing, an organisation has to stimulate management staff to playing leadership roles of facilitator, mentor and innovator, to discourage them from overly monitoring staff, and to foster an organisational culture with an emphasis on collaboration. Support at the work-group level is the most important for knowledge sharing. Such facilitating and mentoring activities will increase social and conversational knowledge sharing, resulting in the prevention of knowledge depreciation and reinforcement of organisational capabilities. When such shared knowledge is converted into organisational systems, the outcome will be improved organisational learning and effectiveness.

7.2 IMPLICATIONS OF THIS STUDY

7.2.1 TOWARDS A THEORY OF KM

While KM is the subject of many papers and books, it is rarely defined in a systematic way. The present study contributes to this literature not only by providing empirical support for the frequently hypothesised contributions of knowledge sharing and organisational learning to organisational effectiveness, but also by offering the systematic theory of knowledge management shown in Figure 3.1.

In this theory, KM is a function of organisational learning, which is itself an outcome of knowledge sharing processes. Organisational learning additionally involves systems to turn individuals' experience into knowledge and to store and propagate that knowledge across the organisation. Knowledge sharing is seen as a function of organisational culture and leadership roles as well as individual behaviour. Finally, individuals' propensity to share knowledge and undertake organisational learning is seen to depend on their attitudes, competencies and, although not directly measured, their actions.

Employees performing KM can be seen as undertaking sharing, thinking and learning behaviours, creating a so-called 'flow of knowledge'. These three activities have a reciprocal relationship: an effective sharing process enables individuals to think about others' ideas and insights and learn from them, resulting

in the enlargement of their capabilities. Managers implementing KM need to facilitate this; equally they also need to create systems to convert individual knowledge to organisational knowledge so that it does not become 'orphaned'. This prevents knowledge depreciation and reinforces organisational capabilities.

7.2.2 IMPLICATIONS FOR FURTHER RESEARCH

The findings of this study raise a number of questions that future researchers might examine. These concern the role of organisational learning, the generalisability of the theory in Figure 3.1 to other hotels, industry segments and nations, the role of customer satisfaction, the value of some aspects of KM practice, and the role of employee retention programs.

The literature review suggested that conversion of shared knowledge into organisational assets is an important process in proceeding to organisational learning. The results of this study showed that this link was rather weak. The interpretation here, that shared knowledge is not being converted into organisational systems, needs to be confirmed. There is also a need for further investigation into the role of other factors which create effective organisational learning.

This study focused on international tourist hotels with the brand names of global chains. Future research should examine whether the present findings apply to other segments of the hotel industry, including local chain hotels and independent properties. It would also be interesting to compare international chain hotels around the world to see if their knowledge management practices vary according to local business practice and national culture.

Even more important for future research is to examine how the present results reflect KM in other industries and other parts of the world. This study has attempted to outline a general theory of KM based on studies in many industries and countries, and while it is expected to apply widely this should not be assumed.

In the hotel industry, the benefits of knowledge sharing and organisational learning are likely to occur largely through greater customer satisfaction. When

employees share knowledge effectively, customer satisfaction, repeat business and the image of the hotel in the marketplace are maximised. Customer satisfaction is a key contributor to organisational effectiveness in many industries. There will also be improvements in operational efficiency, reducing business costs. The precise mechanism of the relationship between knowledge sharing and organisational effectiveness may vary in different industries and national business environments, and such intervening variables should be the subject of further study.

The literature review suggests that many aspects of KM have not been examined empirically, and some important topics for further investigation can be listed. First, how does the implementation of 'communities of practice' (Lave and Wenger, 1991) influence knowledge sharing, knowledge acquiring and organisational learning? Second, how do power and control, employment commitment and hierarchical knowledge influence the outcomes of individuals' knowledge sharing? Third, how does the loss of potential knowledge affect sustained competitive advantage? Fourth, how do different approaches to breaking down the compartmentalisation of knowledge in departments influence KM and organisational learning?

Finally, as mentioned earlier, in the hospitality field most practitioners and scholars focus on designing strategies to minimise employee turnover rather than developing programs to maximise knowledge retention before employees leave the job. Moreover, many of the strategies which have been developed for employee retention, such as rewards systems and training and development programs, can be applied to knowledge retention. Investigating the impact of such programs is an important future research area.

7.2.3 IMPLICATIONS FOR MANAGEMENT

As the business environment in the hotel industry is characterised by competitiveness, diversity and variety, the development of knowledge sharing needs a multi-faceted approach rather than a 'one-size-fits-all' view. This approach would include knowledge acquisition from both internal and external sources, an emphasis on strategic information, and attention to mentoring, training

and rewards.

To prevent knowledge depreciation, orphaned knowledge and organisational slack, and to enrich organisational competitiveness, it is necessary to acquire information and knowledge from both internal and external sources and to share this throughout an organisation. However, this study demonstrates that there is often not enough time for people to share during work hours. This implies that top management should reassess the level of manpower when upgrading knowledge sharing and organisational learning systems.

This study also suggests that it could be helpful if top management put more effort into sharing strategic knowledge for the creation of future competitive advantage, rather than engaging in operational or 'performance management' knowledge. This effort may include: the enrichment of employees' competences from stakeholders, the improvement of transfer of individuals' competences amongst staff, the advancement of employees' competences from organizational knowledge, and the improvement of updating organizational knowledge based on the acquisition of knowledge from external stakeholders. Practically this means: building up good relationship between people inside and outside companies (e.g. learning from customer feedback, understanding what stakeholders' needs and wants are, and providing products meeting the above criteria); building up openness, flexibility and sharing working climate (e.g. promoting team/social activities such as dialogue rooms); organizing job rotations; providing user friendly computer devices (e.g. interactive e-learning environment); empowering the front-line staff to handle customers' complaints and special requests; and establishing alliances to develop new offerings (e.g. industrial survey and joint venture).

An organisation's mentoring system/program should be given strong attention, with leaders especially given support to develop their roles as mentors. The mentoring program enables senior members to assist juniors. In this context, seniors need to be motivated in order to share their knowledge and experience with juniors and newcomers.

The majority of international tourist hotels have multi-skilled employees through job rotation, cross-departmental training and other forms of cross-functional training. However, this study shows that learning or training reports are seldom used in practice. These should be regularly required after training programs, to enable trainees to reflect on what they have learnt, and to convert individual knowledge to organisational assets before it turns to an organisational liability.

As well, formal training sessions (such as on-the-job training) should be more frequent (i.e. once a week), thereby making sharing a more rapid process. In particular, this study shows that attitudes of top and middle level staff were more favourable to sharing and learning than those of front-line employees. This implies that the latter would greatly benefit from further awareness building concerning the importance and nature of knowledge sharing and learning.

Effective utilisation of organisational assets is crucial. In this study, monetary rewards were not an impediment to knowledge sharing. This implies that an organisation needs to discover and work with employees' values in terms of non-monetary needs and quality of work life variables.

7.3 LIMITATIONS

This study has necessarily involved a number of compromises which result in limitations in the research methods.

First, achieving a satisfactory survey response rate was quite challenging, partly because of the seasonal nature of the hotel business. The timing of data collection for the pilot took place during the peak season and there were some interruptions during the interviews. Some questionnaires were collected during the high season and many during the shoulder season, slowing their return. The timing issue might have influenced some responses and caused some incomplete returned questionnaires to be categorised as unusable.

Second, the questionnaire was lengthy. Some researchers claim that questionnaire length could affect the response rate and quality of the responses. Nevertheless, there was no apparent reason to question the quality of the data in this study. However, one drawback was discovered: blank spaces for "Other (please specify)" items at the end of each of each section were not filled in. The purpose of these items was to learn of critical incidents, and other means should be used in future in this population.

Third, the sample frame of this study focused on international tourist hotels in well-known global chains. The generalisability of this study to the same chain hotels in other countries, or localised chain hotels or independent hotels in Taiwan, is unknown. International chain hotels may be different in other parts of the world, and localised chain and independent hotels may or may not have similar work patterns, organisational systems, cultures and employees.

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APPENDIX A: DEFINITIONS OF KNOWLEDGE AND KNOWLEDGE MANAGEMENT *

Definitions of Knowledge

❖ "Knowledge is organized information applicable to problem solving." (Woof, 1990)

❖ "Knowledge is information that has been organized and analysed to make it understandable and applicable to problem solving or decision making." (Turban, 1992)

❖ "Knowledge encompasses the implicit and explicit restrictions placed upon objects (entities), operations, and relationships along with general and specific heuristics and inference a procedures involved in the situation being modelled." (Sowa, 1984)

❖ "Knowledge consists of truths and beliefs, perspectives and concepts, judgments and expectations, methodologies and know-how. (Wiig, 1993)

❖ "Knowledge is the whole set of insights, experience, and procedures that are considered correct and true and that therefore guide the thoughts, behaviours, and communications of people. (van der Spek & Spijkervet, 1997)

❖ "Knowledge is reasoning about information and data to actively enable performance, problem-solving decision-making, learning, and teaching. (Beckman, 1997)

❖ "Knowledge contains subjective judgment. Values and beliefs are integral to knowledge, determining in large part what the knower sees, absorbs, and concludes from his observations." (Gao et al., 2002)

❖ "Knowledge requires space in which dialogue can take place; where shared meaning and metaphorical frameworks can be constructed; and above all it needs the support and encouragement of human relationships and contextual richness." (Sbarcea, 2001, p.35)

Definitions of Knowledge Management

❖ "KM is the systematic, explicit, and deliberate building. Renewal and application of knowledge to maximize an enterprise's knowledge-related effectiveness and returns from its knowledge assets." (Wiig, 1997)

❖ "KM is the process of capturing a company's collective expertise wherever it resides – in databases, on paper or in people's heads – and distributing it to wherever it can help produce the biggest payoff." (Hibbard, 1997)

❖ "KM is getting the right knowledge to the right people at the right time so they can make the best decision." (Petrash, 1996)

❖ "KM involves the identification and analysis of available and required knowledge, and the subsequent planning and control of actions to develop knowledge assets so as to fulfil organization objectives. (Macintosh, 1996)

❖ "KM applies systematic approached to find, understand and use knowledge to create value." (O'Dell, 1996)

❖ "KM is the explicit control and management of knowledge within an organization aimed at achievement the company's objectives." (van der Spek & Spijkervet, 1997)

❖ "KM is the formalization of and access to experience, knowledge and enterprise that create new capabilities, enable superior performance, encourage innovation, and enhance customer value." (Beckman, 1997)

* Source: Adapted from: Beckman, 1999, p. 1-3 & 1-6

APPENDIX B: ADDITIONAL DEFINITIONS

Knowledge Management is "the process of creating, capturing, and using knowledge to enhance organizational performance" (Bassi, 1997, p.26).

"Knowledge Management is key to the creation and ongoing development of learning organizations." (Harrison, 1998, p.33)

Knowledge Management is defined as "the management of the information, knowledge and experience available to an organization – its creation, capture, storage, availability and utilization in order that organizational activities build on what is already known and extend it further" (Mayo, 1998, p.36).

"Knowledge Management is a set of processes for transferring intellectual capital to value-process such as innovation and knowledge creation and knowledge acquisition, organization application, sharing and replenishment. ... [It] is a strategic, systematic program to capitalize on what an organization "knows". (Knapp, 1998, p.3)

"Knowledge Management means a systematic and organized attempt to use knowledge within an organization to transform its ability to store and use knowledge to improve performance." (Parlby, 1998, p.5)

"Knowledge Management is a discipline that involves people, process and technology to create shared knowledge throughout an organization." (Tauhert, 1998, p.31)

"Knowledge Management is all about facilitating learning, through sharing, into usable ideas, products, and process." (Foy, 1999, p.15-2)

"Knowledge Management is about adding actionable value to information by filtering, synthesizing, and summarizing it and developing personal usage profiles to help people get at the kind of information they need to take action on." (Wah, 2000b, p.309)

IBM defines Knowledge Management as "the ways and means by which a company leverages its knowledge resources to generate business value" (Anonymous, 2000, p.5).

"Knowledge Management isn't about technology, it's about culture change. ... And unless people with some insight into human behaviour get involved, it isn't going to work." (Gordon, 2000, p.166)

Gartner Group defines that "Knowledge Management is a discipline that promotes an integrated approach to identifying, managing, and sharing all of an enterprises information needs" (Lee, 2000, p.35).

"Knowledge Management involves the application of a range of management processes to know-how and intangibles but also to people, technologies and systems in order to add or create value in pursuit of organizational aims and objectives." (Martin, 2000, p.19)

"Knowledge Management is the process of systematically and actively managing and leveraging the store of knowledge in an organization." (Tan, 2000, p.11)

KM is "attending to processes for creating, sustaining, applying, sharing and renewing knowledge to enhance organizational performance and create value" (Allee, 2001a, p.1).

APPENDIX C INTERVIEW QUESTIONS

Category A: General questions

- After the company has sent you to receive training abroad, were you requested to give any returns?

- Have you attended any meetings (including the international or domestic ones) other than those held by the company?

- Do you need to give any returns upon coming back to the company?

- If you have a good idea or suggestion, how will you pass it on to the senior ranks?

- Has the company provided any channels for you to complain?

- During the slack working time, what topics will you discuss with your colleagues?

- Do you think it important to share knowledge with your colleagues? Why or why not?

- What are the factors that influence the staff to share experience and knowledge with other colleagues?

- Has the company ever held any gathering, conference, working meeting or any other activities so as to let colleagues share the knowledge they have with each other?

- How do you usually acquire the information and professional knowledge related to work?

- Have you ever discovered that in the daily routine work different staff may make the same mistake continuously? What are the cruxes that you think the problem has? How do you prevent these problems from happening?

- How does your company usually store all the information and the professional skills of the company?

- How can every staff member enter the company's database at any time and place?

- What are the main functions in the computer system of your company?

Category B: IS and IT related questions

> From the angle of your being a professional manager of electronic information, what are the ways that you think good to make use of the electronic information and computer to assist the staff to share their experience and the knowledge related to work?

> Under what circumstances will you renew or delete the information in the computer system of the company?

> If there is any staff of your company asking you questions about IS, what attitude will you usually hold?

> How do you control your staff's entering the database of the company?

> What are the IS functions that the company has been putting efforts into in planning future directions?

Category C: Sales and Marketing related questions

> What is the information that you think necessary to be transmitted by FO Department to Marketing and Sales Department?

> After you have obtained this information, how will you deal with it?

> Will the colleagues of the Sales Department of your company share and exchange their working experience, and discuss the social pulses with each other? How do you exchange the experience?

> Can sales techniques be passed over?

APPENDIX D
CONFIDENTIAL, ANONYMOUS
HOSPITALITY OPERATIONS SURVEY
QUESTIONNAIRE

General Information

This is an anonymous questionnaire. Please ensure that you do not write your name, or any other comments that will make you identifiable.

The term *knowledge* in this questionnaire may include job-related entities (such as operational thoughts, behaviors, standard operation procedures, daily routines, hotel's products and services offered, information and strategies about competitors' and customers' knowledge, etc.), and individuals' insights and their past working experience which is relevant to the current job.

Special Notes
Please use respective scale systems that have been developed for each part to respond to each statement.

Please make sure that you respond to ALL questions.

I appreciate your time, co-operation and participation.

<div align="right">

Edith Cowan University
Jen-Te YANG
March 2004

</div>

SECTION A: ABOUT YOUR PERCEPTIONS

Part One: The following statements describe your belief and perceptions of sharing and learning. To what extent do you agree with the following statements? Please indicate with a circle around a number.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Moderate	Slightly Agree	Agree	Strongly Agree

1. You share knowledge with your colleagues without their asking.   1 2 3 4 5 6 7
2. You talk about job-related matters during social activities outside of   1 2 3 4 5 6 7
   the workplace with your colleagues.
3. Customer services might suffer if colleagues do not share.   1 2 3 4 5 6 7
4. New operational knowledge could be created through sharing ideas.   1 2 3 4 5 6 7
5. Have you and/or your colleagues suffered costly mistakes because of
   lack sufficient knowledge or expertise?
          a)   Technology knowledge   1 2 3 4 5 6 7
          b)   Competitors' knowledge   1 2 3 4 5 6 7
          c)   Customers' knowledge   1 2 3 4 5 6 7
          d)   Knowledge of operational procedures   1 2 3 4 5 6 7

6. When your colleagues come up with a new idea, you are willing to know of and learn about it.   1   2   3   4   5   6   7

7. You usually invite your colleagues to provide regular feedback about how they think you are doing on the job.   1   2   3   4   5   6   7

8. When you receive negative feedback, you work on your self-improvement rather than defensiveness or anger.   1   2   3   4   5   6   7

9. You make sure that everything you do is focused on better customer services.   1   2   3   4   5   6   7

10. You continually gather information on your customers' needs and preferences.   1   2   3   4   5   6   7

11. You do not know how to interpret and use the available information.   1   2   3   4   5   6   7

12. You have enough the following skills to handle daily operations.
     a)   job-related techniques and skills   1   2   3   4   5   6   7
     b)   professional knowledge   1   2   3   4   5   6   7

13. Operational knowledge and skills need to be:
     a)   documented   1   2   3   4   5   6   7
     b)   stored in the hotel computer system   1   2   3   4   5   6   7

14. Customer-related knowledge needs to be:
     a)   documented   1   2   3   4   5   6   7
     b)   stored in the hotel computer system   1   2   3   4   5   6   7

15. The following knowledge and skills need to be regularly updated onto documentation and/or the hotel computer system.
     a)   Competitors' knowledge   1   2   3   4   5   6   7
     b)   Customer-related knowledge   1   2   3   4   5   6   7
     c)   Knowledge of operational procedures   1   2   3   4   5   6   7

Part Two: How important are the following arrangements in assisting you to *share* knowledge with your colleagues? These statements should be responded to on the basis of your experiences in your current job. Please use the following scale to respond to each item.

                            Moderately Important
Not at all Important   1   2   3   4   5   6   7   **Extremely Important**

     a)   Formal meetings and inter-shift briefing   1   2   3   4   5   6   7

     b)   Mentoring programs   1   2   3   4   5   6   7

     c)   Discussion Forums, workshops, case studies   1   2   3   4   5   6   7

     d)   Organized social events (such as outings, incentive tours, birthday ceremonies, etc.)   1   2   3   4   5   6   7

     e)   Informal gatherings (such as tea breaks, etc.)   1   2   3   4   5   6   7

     f)   Training sessions (lecture-in-class styles)   1   2   3   4   5   6   7

     g)   Spontaneous circumstances   1   2   3   4   5   6   7

     h)   Cross-department training   1   2   3   4   5   6   7

     i)   Other (Please Specify) _____   1   2   3   4   5   6   7

     j)   Other (Please Specify) _____   1   2   3   4   5   6   7

     k)   Other (Please Specify) _____   1   2   3   4   5   6   7

SECTION B: ABOUT YOUR HOTEL

Part 1: The following statements describe your hotel operations in knowledge sharing. If you think the extent of occurrences is very high in the hotel where you work, circle number 7. If you think they never occur, circle number 1.

1	2	3	4	5	6	7
Nil	Very low	Low	Moderate	High	Very High	Extremely High

1. Your superiors deliver knowledge which is acquired from guests.   1 2 3 4 5 6 7
2. Your colleagues ring you from work and ask you job-related knowledge when you are on a day-off.   1 2 3 4 5 6 7
3. You make recommendations for greater effectiveness of routines.   1 2 3 4 5 6 7
4. You share past working experiences with your colleagues.
   - a) Failures   1 2 3 4 5 6 7
   - b) Successes   1 2 3 4 5 6 7
   - c) Difficulties   1 2 3 4 5 6 7
5. When employees complete the training sessions, your superiors ask them to review and update the routines.   1 2 3 4 5 6 7

6. Your department assigns staff to update the following information in the computer system
   - a) Guests change their preferences, requests, etc.   1 2 3 4 5 6 7
   - b) Competitors' information   1 2 3 4 5 6 7
   - c) Knowledge of operational procedures   1 2 3 4 5 6 7
7. The same mistakes are made in your department twice or more.   1 2 3 4 5 6 7
8. Your department has used the following media for storing knowledge.
   - a) The logbook, Sales reports   1 2 3 4 5 6 7
   - b) Standard Operation Procedures   1 2 3 4 5 6 7
   - c) Training reports   1 2 3 4 5 6 7
   - d) Intranet   1 2 3 4 5 6 7
   - e) The Hotel Computer System (e.g. Delphi, Fidelio, Micros, Lotus Notes, etc.)   1 2 3 4 5 6 7
   - f) Filing systems, memos   1 2 3 4 5 6 7
   - g) Other (Please specify) _____   1 2 3 4 5 6 7
   - h) Other (Please specify) _____   1 2 3 4 5 6 7
   - i) Other (Please specify) _____   1 2 3 4 5 6 7

9. You *share* the following knowledge content.
   - a) Competitors' strategies   1 2 3 4 5 6 7
   - b) Future trends   1 2 3 4 5 6 7
   - c) Government regulation   1 2 3 4 5 6 7
   - d) Competitors' performances   1 2 3 4 5 6 7
   - e) Guests' praises   1 2 3 4 5 6 7
   - f) Guests' complaints   1 2 3 4 5 6 7
   - g) Customer-related knowledge   1 2 3 4 5 6 7
   - h) Guests' requests   1 2 3 4 5 6 7
   - i) Problem-solving approaches   1 2 3 4 5 6 7

1	2	3	4	5	6	7
Nil	Very low	Low	Moderate	High	Very High	Extremely High

    j) Ways of dealing with situations   1 2 3 4 5 6 7

    k) Details of products and services offered   1 2 3 4 5 6 7

    l) Other (Please specify) _____   1 2 3 4 5 6 7

    m) Other (Please specify) _____   1 2 3 4 5 6 7

    n) Other (Please specify) _____   1 2 3 4 5 6 7

10. The following factors inhibit you in *sharing* of knowledge with your colleagues.

    a) Difficulties in understanding some operational knowledge   1 2 3 4 5 6 7

    b) Lack of sharing and gathering skills   1 2 3 4 5 6 7

    c) Negative attitude   1 2 3 4 5 6 7

    d) Lack of intimacy of friendship   1 2 3 4 5 6 7

    e) No time allowed   1 2 3 4 5 6 7

    f) Difficulties with the usefulness of past experience in today's situations   1 2 3 4 5 6 7

    g) Difficult work environment   1 2 3 4 5 6 7

    h) Lack of appropriate rewards, including public recognition, incentives, bonuses, etc.   1 2 3 4 5 6 7

    i) Unattractive rewards, including public recognition, incentives, bonuses, etc.   1 2 3 4 5 6 7

    j) Overload of job-related knowledge   1 2 3 4 5 6 7

    k) Worry about promotional competition with sharees   1 2 3 4 5 6 7

    l) Superiors do not care about sharing or gathering new knowledge   1 2 3 4 5 6 7

    m) Knowledge selectively shared   1 2 3 4 5 6 7

    n) One-way, not two-way sharing practices   1 2 3 4 5 6 7

    o) Other (Please specify) _____   1 2 3 4 5 6 7

    p) Other (Please specify) _____   1 2 3 4 5 6 7

11. During slack working times to what extent do you usually do the following activities?

    a) Discuss the private matters of guests   1 2 3 4 5 6 7

    b) Discuss personal matters of your superiors and co-workers   1 2 3 4 5 6 7

    c) Discuss guests' behaviour without further discussion   1 2 3 4 5 6 7

    d) Discuss and analyze guest's complaints and requests   1 2 3 4 5 6 7

    e) Train junior colleagues   1 2 3 4 5 6 7

    f) Read job-related materials such as newspapers, magazines   1 2 3 4 5 6 7

    g) Do nothing/ Hang around   1 2 3 4 5 6 7

    h) Other (Please Specify) _____   1 2 3 4 5 6 7

    i) Other (Please Specify) _____   1 2 3 4 5 6 7

    j) Other (Please Specify) _____   1 2 3 4 5 6 7

Part 2: How often do you *share* job-related knowledge using the following communication media? Please use the following scale to respond to each statement.
What is the AVERAGE extent to which these activities are carried out in a 'YEAR' term?

1: 'never'	2: half-yearly	3: quarterly	4: bimonthly
5: monthly	6: weekly	7: more than once per week	

12. The communication media for

a) Internet facilities, e-mails   1 2 3 4 5 6 7

b) Reading (newsletters, magazines, etc.)   1 2 3 4 5 6 7

c) The hotel computer system (e.g. Delphi, etc.)   1 2 3 4 5 6 7

d) Departmental logbooks   1 2 3 4 5 6 7

e) Standard Operation Procedures (SOPs)   1 2 3 4 5 6 7

f) Conversation with junior staff   1 2 3 4 5 6 7

g) Conversation with co-workers   1 2 3 4 5 6 7

h) Conversation with superiors   1 2 3 4 5 6 7

i) Conversation with customers

j) Staff who work for other hotels   1 2 3 4 5 6 7

k) Any kinds of meetings (Departmental Meetings, Inter-shift briefings, etc.)   1 2 3 4 5 6 7

l) Attending Trade shows   1 2 3 4 5 6 7

m) Your hotel/Department Bulletins   1 2 3 4 5 6 7

n) Attending Industry Gatherings   1 2 3 4 5 6 7

o) Site inspection of other hotels   1 2 3 4 5 6 7

p) Skill Competitions   1 2 3 4 5 6 7

q) Training programs arranged by organizers outside the hotel   1 2 3 4 5 6 7

r) Training programs arranged by your own hotel and/or superiors   1 2 3 4 5 6 7

s) Social activities arranged by organizers outside the hotel   1 2 3 4 5 6 7

t) Social activities arranged by the hotel and/or superiors   1 2 3 4 5 6 7

u) Attending Workshops   1 2 3 4 5 6 7

k) Other (Please Specify) _____   1 2 3 4 5 6 7

v) Other (Please Specify) _____   1 2 3 4 5 6 7

w) Other (Please Specify) _____   1 2 3 4 5 6 7

Part 3: Please tick ONLY one (1) of the following boxes.

13. After you have gathered job-related knowledge, how are you most likely to deal with it?

☐ forget it ☐ write it down in a certain place ☐ think about it

☐ directly share with others ☐ think, share with others

☐ think and share with colleagues, and report it to superiors

☐ think about it, share and discuss with colleagues, try to apply it to the work

☐ think, and apply it to the work (trial-and-error); if workable, discuss it with colleagues

☐ think, apply, discuss with colleagues, and report workable cases to superiors; if they agree colleagues pursue the new approach but **DON'T** update documentation of standard operation procedures

☐ think, apply, discuss with colleagues, and report workable cases to superiors; if they agree colleagues pursue the new approach **WITH** updating documentation of standard operation procedures

Part 4: The following statements describe management behaviors. You should indicate the extent to which your superiors engage in these behaviours. Please use the following scale to respond to each statement. Circle a number from 1 to 7 in the cell.

1	2	3	4	5	6	7
Nil	Very low	Low	Moderate	High	Very High	Extremely High

14. In doing the job, generally speaking, your superiors in management:

a) listen to the personal problems of subordinates. 1 2 3 4 5 6 7

b) meticulously review detailed reports. 1 2 3 4 5 6 7

c) influence decisions made at higher levels. 1 2 3 4 5 6 7

d) do problem solving in creative, clever ways. 1 2 3 4 5 6 7

e) clearly define areas of responsibility for subordinates. 1 2 3 4 5 6 7

f) display a wholehearted commitment to the job. 1 2 3 4 5 6 7

g) facilitate consensus building in work-group sessions. 1 2 3 4 5 6 7

h) protect continuity in day-to-day operations. 1 2 3 4 5 6 7

i) compare records and reports to detect any discrepancies in them. 1 2 3 4 5 6 7

j) show empathy and concern in dealing with subordinates. 1 2 3 4 5 6 7

k) set clear objectives for the work unit. 1 2 3 4 5 6 7

l) search for innovations and potential improvements. 1 2 3 4 5 6 7

m) work on maintaining a network of influential contacts. 1 2 3 4 5 6 7

n) insist on minimum disruption to the work flow. 1 2 3 4 5 6 7

o) reflect high motivation for the role. 1 2 3 4 5 6 7

p) encourage participative decision making in work-group sessions. 1 2 3 4 5 6 7

Part 5: Please use the following scale in your ratings to indicate how much do you agree/disagree with the following statements.

		Moderate				
Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

15. The people you report to keep you informed. 1 2 3 4 5 6 7

16. Sharing of knowledge is encouraged by your hotel in action and not only in words. 1 2 3 4 5 6 7

17. You are continuously encouraged to bring new knowledge into the hotel. 1 2 3 4 5 6 7

18. You are encouraged to say what you think even if it means disagreeing with people you report to. 1 2 3 4 5 6 7

19. Open communication is characteristic of your hotel as a whole. 1 2 3 4 5 6 7

20. Your immediate superior(s) encourages you to come up with innovative solutions to work-related problems. 1 2 3 4 5 6 7

21. Your immediate superior(s) organizes regular meetings to share information. 1 2 3 4 5 6 7

22. Your immediate superior(s) keeps you informed. 1 2 3 4 5 6 7

23. Your immediate superior(s) encourages open communication in your working group. 1 2 3 4 5 6 7

24. Your immediate superior(s) encourages-by action and not only words- sharing of knowledge. 1 2 3 4 5 6 7

25. You learn a lot from other staff in this hotel. 1 2 3 4 5 6 7

26. In this hotel, information sharing has increased your knowledge. 1 2 3 4 5 6 7

27. Most of your knowledge has developed as a result of working together with colleagues in this hotel. 1 2 3 4 5 6 7

28. Sharing information translates to deeper knowledge in this hotel. 1 2 3 4 5 6 7

29. Combining the knowledge amongst staff has resulted in many new ideas and solutions for this hotel. 1 2 3 4 5 6 7

30. There is much you could learn from your colleagues. 1 2 3 4 5 6 7

31. There are people here who prefer to work on their own. 1 2 3 4 5 6 7

32. You often share work experiences informally in your team. 1 2 3 4 5 6 7

33. You help each other to learn the skills you need. 1 2 3 4 5 6 7

34. You keep all team members up to date with current events (e.g. new offers) and work trends. 1 2 3 4 5 6 7

35. Your hotel regularly comes up with new, creative ideas about process, products, or procedures. 1 2 3 4 5 6 7

36. Your hotel constantly restates and reinforces the vision of the future to its members. 1 2 3 4 5 6 7

37. A climate of continuous improvement has been practiced in your hotel. 1 2 3 4 5 6 7

38. Everyone in your department is encouraged to constantly improve and update everything they do. 1 2 3 4 5 6 7

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree

39. Ambitious goals of your department have been set, that challenge you to try to perform at levels above the standards of the hotel in general. 1 2 3 4 5 6 7

40. Employee efficiency and productivity in your department have been continuously enhanced. 1 2 3 4 5 6 7

41. The desired goals of your hotel are always achieved. 1 2 3 4 5 6 7

42. Your hotel is made more competitive by encouraging its members to offer services and products that surprise and delight. 1 2 3 4 5 6 7

43. Your hotel ensures collaboration and positive conflict resolution among its members. 1 2 3 4 5 6 7

44. Your loyal customers always come back for further services. 1 2 3 4 5 6 7

SECTION C: ABOUT YOUSELF

1. **Gender:** ☐ Male ☐ Female

2. **Age:** (Please tick one)
   ☐ below 18 years old ☐ 19-25 years old ☐ 26-30 years old ☐ 31-40 years old
   ☐ 41-50 years old ☐ above 51 years old

3. **Length of time spent in the hospitality industry (in total):** _____ year(s) _____ month(s)

4. **Duration of Employment with this Hotel:** _____ year(s) _____ month(s)

5. **The department of your Current Job:** _____

6. **The Title of your Current Position:** _____

7. **Nationality:** _____

8. **Level of Education:** (Please tick one)
   ☐ Ph.D./Master ☐ Bachelor ☐ Diploma ☐ High School or below
   ☐ Other_____

9. **Employment Status**
   ☐ Full time ☐ Part Time ☐ Contracted
   ☐ Internship ☐ Casual/On call ☐ Others _____

Please check that you have responded to all questions.

Thank you very much for your time and participation!