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Factors which influence organisational knowledge sharing

Submitted by

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ABSTRACT

This research investigated which combination of factors had a positive and significant impact on knowledge sharing within an organisation. By finding this combination it will allow organisations to prioritise resources to specific factors that are seen to positively affect knowledge sharing.

One hundred and seventy nine employees of a prominent South African company gave an indication into which factors in combination would provide a model that best predicts a positive impact on knowledge sharing. Statistical testing carried out on the resulting data gave an indication of the best fitting model.

It was found that three of the four identified factors contributed 62% to the overall positive effect on knowledge sharing when measured together.

9.3 Keywords

Knowledge sharing; Organisation; Knowledge sharing sub factors.

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

_____   <u>31 October 2010</u>

Neil French   Date

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1 INTRODUCTION TO THE RESEARCH PROBLEM

1.1 Introduction

Chapter one is an overall introduction to the research study and will give the reader an understanding of the context for the research. It will provide insight as to why there is a need for the research, what the research objectives are, the scope of the research and relationship between the research problem and objectives.

1.2 Research Problem

Knowledge is a resource that is important for organisational sustainability; it provides a competitive advantage in a competitive economy that is always changing (Davenport & Prusak, 1998; Foss & Pederson, 2002; Grant, 1996). In order for an organisation to gain a competitive advantage it cannot merely rely on systems that focus on recruitment of individuals with the required knowledge, experience, abilities and core competencies (Brown & Duguid, 1991). Organisations need to understand how knowledge is transferred from individuals with expertise to new or younger inexperienced employees that require these skills (Hinds, Patterson, & Pfeffer, 2001). Organisations need to understand how to effectively exploit these knowledge based employee resources that are already present within the organisation (Davenport & Prusak, 1998; Grant, 1996; Spender, 1996).

Effective knowledge sharing between employees can contribute to innovation which ultimately leads to a competitive advantage for the organisation (Jackson, Chuang, Harden, Jiang, & Joseph, 2006). Effective knowledge sharing between employees and teams allows for maximum exploitation of the existing knowledge resources within the organisation (Davenport & Prusak, 1998; Damodaran & Olphert, 2000). Research has shown that effective knowledge sharing results in improved overall performance across a number of areas including sales volumes, production spend reduction, overall team performance and new product development. (Cummings, 2004; Arthur & Huntley, 2005; Collins & Smith, 2006; Hansen, 2002; Lin, 2007; Mesmer-Magnus & DeChurch, 2009).

Organisations have realised the advantage of knowledge sharing and have invested a lot of time and money into knowledge management systems with the promise of improved knowledge sharing and overall competitiveness of the organisation. Analysis conducted reveals that at least $31.5 billion is lost each year by Fortune 500 companies due to the result of failing to share knowledge (Babcock, 2004). Knowledge management systems fail due to the misunderstanding of the context the organisation finds itself in, its culture and individual characteristics which impact on knowledge sharing. (Carter & Scarbrough, 2001; Voelpel, Dous, & Davenport, 2005).

This research focuses on different factors and the impact they have on knowledge sharing within an organisation. Knowledge sharing contains a wide

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variety of different factors which impact it. A recent review conducted by Wang & Noe (2010) found that there are a small number of empirical studies investigating the factors involved in knowledge sharing and that there is a lack of standard measurement techniques for knowledge sharing. They found 76 qualitative and quantitative studies that were published between 1999-2008. They identified the various theories or theoretical frameworks based on the review of the current literature.

This research will aim to increase the understanding of knowledge sharing in a number of ways. Firstly, the literature has been examined to identify all the current studies that influence knowledge sharing from an organisation level through to team level and then to individual level characteristics. Wang & Noe (2010) stated that a number of studies involving knowledge sharing have been completed in information systems (Wasko & Faraj, 2005), organisational behaviour (Bordia, Irmer, & Abusah, 2006), strategic management (Reagans & McEvily, 2001), and psychology (Lyn, 2007) but no systematic review has been conducted to date.

A number of previous studies have focussed on technology based issues that impact knowledge sharing across organisations or teams (Alavi & Leidner, 2001; Argote, McEvily, & Reagans, 2003). This research focuses on knowledge sharing between employees and understanding the factors that influence it. This is important because team and organisational level knowledge is influenced by the extent to which knowledge sharing occurs between employees (Cabrera &

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Cabrera, 2005; Gupta & Govindarajan, 2000; Nonaka, 1994; Polanyi, 1966; Tsoukas & Vladimirou, 2001).

There have been a number of areas of emphasis in previous knowledge sharing research. These include the organisation context which covers: organisational culture and climate; management support; rewards and incentives; and organisational structure. Secondly, they cover interpersonal and team characteristics which include; team characteristics and process; and diversity and social networks. Then there are cultural characteristics, individual characteristics and motivational factors, which include; beliefs of knowledge ownership, perceived benefits and costs, interpersonal trust and justice, and finally there are individual attitudes (Wang & Noe, 2010).

1.3 Research Objectives

This study aims to increase the understanding of the impact particular organisational factors have on knowledge sharing within an organisation. The aim is to develop a final predictive model including the factors that have the biggest influence on knowledge sharing.

1.4 Structure of the report

<u>Chapter 2</u>

Chapter 2 looks at the literature on the current subject, presents an insight into the theory base and provides an argument for the research to be conducted.

<u>Chapter 3</u>

Chapter 3 highlights the research problems identified as well as the research hypotheses.

<u>Chapter 4</u>

Chapter 4 indicates the preferred research methodology that was used to conduct the study. The chapter consists of three sections, details and defence of methodology, definition unit of analysis, the populations, sample size, sampling method, the research instrument used and how the data was collected and processed. Research limitations are also discussed.

<u>Chapter 5</u>

Chapter 5 presents the results of the research.

<u>Chapter 6</u>

Chapter 6 focuses on the discussion of the results in relation to the hypotheses that were proposed, as well as the theory from the literature review.

<u>Chapter 7</u>

Chapter 7 is the conclusion of the research report and highlights the main findings of the research, pulling the results together in a cohesive set of findings. It also includes recommendations for relevant stakeholders as well as areas for future research.

1.5 Summary

Knowledge is a critical resource for any organisation. There are a number of different factors which impact how it is shared and if it is shared effectively. A number of factors have been identified through the literature review. This research aims to provide further insight into some of these factors and the best combination of factors that illicit a positive and significant influence on knowledge sharing. The result will highlight to managers how they should direct resource allocation to certain factors in order to optimise knowledge sharing.

2 LITERATURE REVIEW

2.1 Introduction

The purpose of the literature review is to define and discuss the relevant terms that are used for this research proposal: knowledge, knowledge sharing and culture, and to develop hypotheses for the research based on a review of past research that has been conducted in the field.

2.2 Knowledge and knowledge sharing

Polanyi (1966) classified knowledge into two different categories: explicit and tacit knowledge. Tacit knowledge is codifiable and transmissible in a formal language state. Tacit knowledge is difficult to convey in formal language and is usually specific to an individual (Bartol & Srivastava, 2002). Explicit and tacit knowledge can be shared; explicit knowledge through verbal communication and tacit knowledge through socialisation, observation and apprenticeship (Bartol & Srivastava, 2002). Effective tacit knowledge transfer requires extensive personal contact and trust (Tobin, 1998). When tacit knowledge is documented it results in explicit knowledge which does more harm than good, resulting in information junkyards and empty libraries (McDermott, 1999).

Tobin (1998) identified that for a company to remain at the forefront of its market it needs to effectively share knowledge between employees. Tacit knowledge is unconscious most of the time, and for it to be effectively shared requires a high level of personal contact and trust.

Wang & Noe (2010) stated that researchers have not been able to reach a consensus between the definition of information and knowledge and that while

some researchers believe all information to be knowledge, that knowledge is more than just information.

Knowledge may also be classified into different categories based on its content (Srivatsava, 2001). Miller (1991) suggested five different types of information that employees might use. These are:

1) Role information about how to conduct a specific task.

2) Role information about the expectations and responsibilities associated with their jobs.

3) Social information about how to interact with each other.

4) Information which refers to organisational policies.

5) Procedures and performance information pertaining to how well an employee is performing in the job.

Based on the above understanding of knowledge and knowledge sharing, the definition of knowledge for the purpose of this study shall be considered as; information possessed by individuals, which includes ideas, facts, expertise and judgments that are relevant for individual, team and organisational performance (Alavi & Leidner, 2001; Bartol & Srivastava, 2002).

Knowledge sharing shall be defined as information that is provided to help others work together to solve certain problems, develop new ideas and initiatives or implement policies or procedures (Cummings, 2004).

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2.3 The benefits associated with knowledge sharing

Knowledge is a critical organisational resource that provides a sustainable competitive advantage in a competitive and dynamic economy (Davenport & Prusak, 1998; Foss & Pederson, 2002; Grant, 1996). Organisations cannot merely employ the necessary people or implement training to ensure a competitive advantage (Brown & Duguid, 1991). They need to understand how they can transfer expertise and knowledge from employees within the company (Davenport & Prusak, 1998). Nahapiet & Ghoshal (1998) state that organisational knowledge is created as a result of the exchange of existing knowledge among current employees. Knowledge sharing between employees is important in building intellectual capital of an organisation. Knowledge sharing between teams has become vital for organisations. Von Krough, Ichijo, & Nonaka (2000) stated that knowledge sharing is important in the creation of knowledge and in leveraging knowledge for improved organisational performance. Knowledge sharing is the critical means through which employees can contribute to knowledge application, innovation, and ultimately the competitive advantage of the organisation (Jackson, Chuang, Harden, Jiang, & Joseph, 2006).

Over the years the importance of knowledge sharing as a competitive advantage has grown. In a world that is becoming smaller and smaller due to globalisation, knowledge is becoming more important in order to maintain or create a competitive advantage. Understanding what specific factors impact knowledge sharing and exactly what the degree of impact is, is therefore an important research area that needs future focus.

2.4 What are the factors that impact knowledge sharing?

A number of studies have tried to establish the link between knowledge management and improved organisational performance. Much of the literature on knowledge management has numerous models and constructs, but there is little information on knowledge transfer and sharing (Rhodes, Hung, Lok, Wu, & Lien, 2008). Klein & Kozlowski (2000) stated that there is a lot of literature on knowledge sharing but the understanding of the field is quite broad and there are no clear definitions, if any. They also stated that there is a lot of potential for further research in the knowledge sharing area, with a need to focus on empirical research.

Srivatsava (2001) asked how one measures the extent of knowledge sharing as there is not a knowledge base to compare with, therefore the quality of knowledge sharing can be measured by the frequency of sharing as well as a subjective measure of the quality of knowledge received by employees. Knowledge sharing is a fairly new concept and as such a small number of scales exist to effectively measure knowledge sharing (Wang & Noe, 2010). Despite the wealth of literature on knowledge sharing that now exists, understanding of the field is broad-brush; the details lack definition and are sometimes absent altogether. There is much potential for further research in the area, and particularly for research with a strong empirical foundation, that is likely to increase the resolution of our picture of knowledge sharing (Klein J. H., 2008).

Lewis (1999) looked at three factors that affect knowledge sharing amongst team members. These factors are:

1) The opportunity to communicate.

2) The desire to communicate.

3) The ability to communicate meaningfully.

There are also a number of factors such as structure, culture, processes, strategy and information technology that impact on organisational performance (Spender, 1996). Wang & Noe (2010) developed a framework for knowledge sharing while conducting a comprehensive review of the research that has been done in the past on this subject. See figure 1 below.
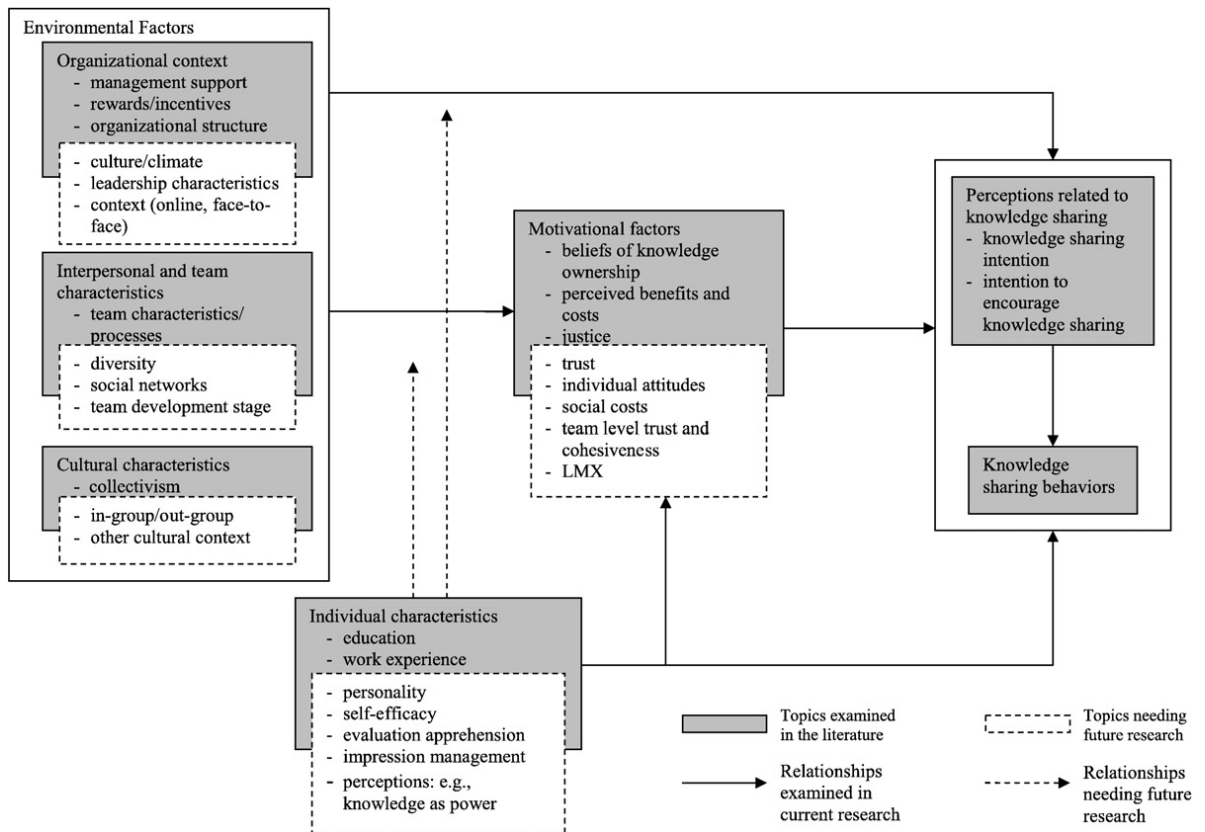
Figure 1: A Framework of Knowledge Sharing Research (Wang & Noe, 2010)

Wang & Noe (2010) identified a number of areas for future research, which include organisational context such as rewards, incentives, management support and organisational structure, culture and climate, interpersonal and team characteristics such as diversity and social networks, and cultural characteristics such as collectivism and other cultural contexts.

Knowledge sharing is influenced by a number of key organisational factors such as structure, culture, processes and strategy, and information technology (Ives, Torrey, & Gordon, 2003; Spender, 1996). Effective knowledge sharing within an organisation can be improved by a structured IT system which enables

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employees to deposit and share knowledge (O'Dell & Grayson, 1998); a flat structure with less hierarchy and bureaucracy; a trust culture where knowledge sharing relationships between individuals and groups are open and honest and supported through meritocratic performance related incentives and rewards; and a learning strategy in which organisations promote the double loop learning (Senge, 1990).

2.5 Organisational factors

This research looks to fill part of the gap between knowledge sharing and the organisation's performance as identified through the literature review, with specific focus on organisational factors that include IT systems, trust cultures, learning strategies and flexible structures and designs.

2.5.1 Knowledge Sharing and Organisational Culture

A number of cultural dimensions that influence knowledge sharing have been identified through previous research. Trust has received the most attention in knowledge sharing research (Wang & Noe, 2010). An organisational climate that highlights individual competition may pose a barrier to knowledge sharing, in contrast to a company that highlights cooperative teams which build trust and increase knowledge sharing (Schepers & van den Berg, 2007; Willem & Scarbrough, 2006). Trust can be seen an as aspect of competition; if you compete against each other can you trust each other?

Szulanski G. (1996) identified fear of losing superiority and lack of adequate reward for explaining an employee's reluctance to share. In an ever increasing competitive landscape, creativity and innovation are becoming more and more important. Creativity is different from innovation as it is concerned with the initial formulation of the idea while innovation refers to the implementation of the idea (Shalley & Gibson, 2004). Schepers & van den Berg (2007) state that all innovation begins with creative ideas.

A team culture that is cooperative in nature can stimulate social exchanges; it creates a high level of trust that is required for knowledge sharing (Schepers & van den Berg, 2007). Individuals who experience high levels of knowledge sharing see their organisations as a team that cooperates and experiences high levels of procedural justice (Schepers & van den Berg, 2007).

Another study by Willem & Scarbrough (2006) looked at social capital and its impact on knowledge sharing. Social capital refers to the goodwill engendered by relationships among people in groups (Adler & Kwon, 2002) and is seen as exerting an important influence upon such knowledge sharing (Nahapiet & Ghoshal, 1998). Willem & Scarbrough (2006) found that where there was distrust, this translated into less willingness to share knowledge. Social capital created both barriers and enablers to knowledge sharing (Willem & Scarbrough, 2006).

A number of researchers have also expressed concerns that effective knowledge sharing between employees and teams may not take place in an organisational setting (Tobin, 1998). Von Kraught (1998) argues that trust in an organisational culture promotes active knowledge sharing between employees, and behavior that elicits trust improves the speed of knowledge sharing by allowing employees to share more freely and share more personal knowledge.

The rest of the literature will focus on the four key factors that the study will be focusing on.

2.5.2 Knowledge sharing and IT systems

Many researchers have suggested that Information Technology (IT) systems are an important mechanism in knowledge management (Bharadwaj, 2000; Sher & Lee, 2004; Duffy, 2000). Davenport & Prusak (1998) found that IT systems had a positive relationship on knowledge sharing. They concluded that IT improves an organisation's performance as well as increasing the rate of knowledge sharing within the organisation.

The integration of IT systems into different business areas such as e-learning, customer relationship management tools, blogs and portals could increase knowledge sharing capability (Rhodes Iet al, 2008). However it must be stated that IT systems are only tools and not solutions, individuals are still responsible for sharing information and knowledge (Wong & Aapinall, 2003). A key aspect of an organisation's resources is its intellectual capital and knowledge base.

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This includes the skills and experience of its employees, its policies, processes and information repositories. Matusik & Hill (1998) state that the relationship between organisational knowledge and its competitiveness is dependent on its ability to integrate, share and apply the knowledge. Nonaka, (1990); Nonaka & Takeuchi, (1995) state that knowledge management requires the organisation to create new knowledge, transfer it and incorporate it into its products, services and systems.

It is becoming more and more important for an organisation to adapt to change based on its ability to embed knowledge in databases and support systems (Sabherwa & King, 1991). Embedding knowledge in these areas allows the organisation to transfer it to new employees (Bharadwaj, 2000). Bharadwaj (2000) concludes that IT systems therefore enable the formalisation of knowledge and the consolidation of previous knowledge that has been accrued, as well as their leveraging across the organisation.

2.5.3 Knowledge sharing and learning strategy

Organisational learning is concerned with the ability to learn from other employees and the culture of openness within the organisation. These factors could have a major impact on how knowledge is shared (Senge, 1990). Bukowitz & Williams, (1999) developed a knowledge management framework which is a process that identifies the tactical component that forms part of the learning strategy in the following order: get, use, learn and contribute. The learn

and contribute process areas are the most challenging and important steps for innovation and overall organisational performance (Rhodes *et al,* 2008).

Organisational learning, the ability to learn from others and the culture of openness within the organisation could have a significant impact on how knowledge is transferred (Senge, 1990). Standard prescriptions of organisational learning tend to relate it to individual learning. An example of this is Kim's (2004) OADI-SMM model, which relates a model which is cyclical in nature to individual learning based on experiential learning theory (Kolb, 1984) to March & Olsen's (1975) model of organisational learning. The key to Kim's approach is the characterisation of organisational learning as development of shared mental models within the organisation. These approaches all emphasise individual learning as the basis of organisational learning.

A new perspective on organisational learning has placed individual learning in the social context of a group of individuals: the community of practice. This perspective looks at individual learning and provides insight into how learning increases in teams, and ultimately to an organisational level (Klein J. H., 2008).

The knowledge an organisation gains over time can be seen as the organisation's memory (Walsh & Ungston, 1991). Klein, Connell, & Jasimuddin (2008) have compared two views of organisational memory. Portraying memory as merely a repository of accumulated knowledge leads to a rather static view of memory, which in turn impacts on the organisation's flexibility and

adaptability. In comparison, an understanding of memory which is linked to the never ending activities of the organisation promotes flexibility (Klein J. H., 2008). Klein *et al, (*2008) stated that such an organisation is 'Markovian', having no memory beyond that which occurs in current organisational activity and in this view of organisational memory, knowledge is 'living' and may be linked to organisational consciousness.

An organisation which adopts this type of memory as a tool in which it operates needs to understand its ability in order to continually keep learning. This will allow its employees to be able to make sense of an environment that is always changing. In these types of organisations it is important to foster these types of practices. (Klein J. H., 2008).

2.5.4 Knowledge sharing and trust culture

Trust is extremely important in the sharing of knowledge (Davenport & Prusak, 1998). Knowledge sharing may be improved through effective communication channels, social networks and trust (McEvily, Perrone, & Zaheer, 2003). Trust plays a crucial role in how employees transfer and share knowledge with others; organisational controls that manage knowledge sharing may have an impact on how employees behave. (Turner & Makhija, 2006).

"Employees are more likely to engage in knowledge transfer if they are operating in a culture that encourages this type of sharing" (Lucas L, 2006, p.

18). A fair reward system motivates employees to share knowledge readily and serves as a reinforcement of organisational trust culture (Rhodes *et al,* 2008).

Studies conducted by Knapp, Conner and Prahalad support the proposition that if an organisation has a culture of trust, knowledge sharing takes place more readily, which improves innovation and learning (Knapp, 1998; Conner & Prahalad, 1996).

The study conducted by McEvily, Perrone, & Zaheer (2003) identified that individual and organisational trust can be improved by open communication channels, and Mayer, Perrone & Zaheer (2003) stated in a study that the culture of trust among individuals has to be cultivated and supported by management.

McNeish & Singh Mann (2010) stated that trust at a basic level serves as a substitute for the ability to authenticate information, and that within a relationship context it strengthens the relationship and in turn builds more trust. Trust can influence knowledge sharing directly and indirectly through relationships and culture. Zand (1972) stated that where trust exists employees give more useful information.

It is crucial for groups or teams within an organisation to trust each other. This can be achieved where information is shared openly and honestly between individuals or teams. (McNeish & Singh Mann, 2010).

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Open communication and information that is freely available are ways in which trust is built (Anderson & Weitz, 1989; Anderson & Narus, 1990; Tapscott & Ticoll, 2003).

A number of studies have related trust to various attitudes and behaviours as well as the quality of the relationship (Parasuraman, Zeithaml, & Berry, 1988; Anderson & Weitz, 1989; Anderson & Narus, 1990).

A number of researchers have linked trust to organisational performance such as improved group performance and increased revenue (Luhmann, 1979). Other researchers state that the direct behavioural links are weak and that the link is between trust and the length and quality of the relationship. They state that long term relationships can improve firm competitiveness and ensure stable market shares (Doney & Cannon, 1997; Kennedy, Ferrell, & LeClairc, 2001; Garbarino & Lee, 2003).

Nonaka (1990) observed that trusting relationships removed deception, cheating and blame laying among employees. Cohen & Prusak (2001) state that higher levels of trust can improve knowledge sharing between employees.

2.5.6 Knowledge sharing and flexible structure and design

Organisational design can be a major factor to whether or not knowledge can be effectively integrated within the organisation (Grant, 1996). Several different structures may be required when an organisation faces a constantly changing environment (Nonaka & Takeuchi, 1995). An example of this is that some

business units need to change current team structures more often than others which requires social networks, trust and communication channels (Rhodes *et al* 2008). Cross-functional teams may facilitate the formulation of a knowledge map for employees to use to find the appropriate knowledge (Greengard, 1998). Employees who have ability for change readiness may be more suitable in this dynamic environment. These employees may be more willing to share information and knowledge in order to achieve goals faster.

It has been argued that this type of dynamic structure of organisational teams could result in improved knowledge sharing (Rhodes *et al* 2008).

2.6 Summary

The literature review started by providing a definition of what knowledge and knowledge sharing is in order to provide context for the research. The benefits of knowledge sharing and the factors that impact on it were highlighted and discussed to emphasise the importance for organisations to understand and manage knowledge sharing effectively. Critical organisational factors that impact on knowledge sharing were then selected from the relevant literature and discussed. The factors include IT systems, trust culture, learning strategies and flexible structure and designs.

The following chapter discusses the research hypotheses which were developed using the current theory on the subject of knowledge sharing and specifically the identified factors which impact the effectiveness of knowledge sharing within organisations.

3 RESEARCH QUESTIONS AND HYPOTHESES

The non empirical review highlighted the importance of the identified areas and the impact they have on knowledge sharing. As a result, a research question was derived and hypotheses were developed to determine the impact each respondent believes the four factors have on knowledge sharing.

3.1 Research question

A broad research question derived from the conceptual framework for this study is:

Which combination of organisational factors has a positive and significant impact on knowledge sharing?

3.2 Hypotheses

Based on the literature, theory base and the above question, the following is predicted:

First hypothesis:

H_0: IT systems **do not** have a positive and significant influence on knowledge sharing.

H_1: IT systems have a positive and significant influence on knowledge sharing.

Second hypothesis:

H_0: Learning strategy **does not** have a significant and positive influence on knowledge sharing.

H_1: Learning strategy has a significant and positive influence on knowledge sharing.

Third hypothesis:

H_0: Trust culture **does not** have a significant and positive influence on knowledge sharing.

H_1: Trust culture has a significant and positive influence on knowledge sharing.

Fourth Hypothesis:

H_0: Flexible structure and design **does not** have a significant and positive effect on knowledge sharing.

H_1: Flexible structure and design has a significant and positive effect on knowledge sharing.

The following chapter will look in detail at the research methodology to be used in the empirical phase of the research project.

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4 RESEARCH METHODOLOGY

4.1 Introduction

This chapter presents the research philosophy, approach, design and methods used to address the research problem as outlined in Chapter 3. It will also discuss the possible limitations of the study.

4.2 Research Approach

- It is of the empirical kind
- It is of the quantitative kind
- It is deductive in nature
- It is objective in nature
- It is of the non-experimental kind.
- It is based on primary data.

4.2.1 Non-empirical research/empirical

<u>Non-empirical research</u>

A major consideration that any researcher faces is the pre-existing body of knowledge referred to as non-empirical research which should be used as a reference for any research that was previously conducted in the selected subject.

The literature review was completed in order to address the research problem.

<u>Empirical research</u>

Any data that has been gathered based on experience or observation is referred to as empirical research. The nature of the research problem will determine if the research is exploratory, descriptive, or causal in nature (Zikmund, 2003).

If the research problem has been discovered but further research is required to gain a better insight or understanding, then exploratory research is conducted. Descriptive research is conducted if the aim of the research is to describe certain characteristics of a population or phenomenon. Causal research focuses on identifying a cause and effect relationship amongst variables with a narrowly defined problem.

This study took both a non-empirical (literature) and an empirical research approach. The non-empirical (literature review) was conducted to structure and execute the empirical research activities. The research is descriptive in nature as it describes certain characteristics of a particular population.

4.2.2 Qualitative/quantitative approach

A choice had to be made whether to use a qualitative or quantitative approach, or a combination of the two. Myers (1997) discussed qualitative and quantitative research methods as such:

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"Quantitative research methods were originally developed in the natural sciences to study natural phenomena. Examples of quantitative methods now well accepted in the social sciences include survey methods, laboratory experiments, formal methods (e.g. econometrics) and numerical methods such as mathematical modelling. Qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. Examples of qualitative methods are action research, case study research and ethnography. Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions" (Myers, 1997).

This research measures different hypotheses through the use of a survey questionnaire which can be explained by numbers and measurements and is therefore quantitative in nature.

4.2.3 Inductive vs. deductive

Theories are produced either through deductive or inductive reasoning. (Zikmund, 2003). Hussey and Hussey (1997, p.19) defined deductive research as; "a study in which a conceptual and theoretical structure is developed which is then tested by empirical observation; thus particular instances are deducted from general influences."

A study in which theory is tested by empirical observation is referred to as deductive research. The deductive method is referred to as deriving a conclusion about a specific instance based on a known general premise.

Inductive reasoning is a study in which a general proposition is established on the basis of observing particular facts. It is possible to include both deductive and inductive reasoning in the same study (Cavaye, 1996).

This study has used a mainly deductive approach as empirical observation has been used.

4.2.4 Subjective vs. Objective

The degree in which the researcher is involved or has influence on the outcome of the study is another choice that has to be made Easterby-Smith *et al.* (1991) stated that the researcher must maintain total independence if the results from the study are to be considered valid.

Due to the nature of this study (quantitative), the research paradigm is objective in nature.

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4.3 Research design

Looking at all the possible alternatives, the purpose of this section is to indicate what type of study was conducted in order to provide valid answers to the research questions.
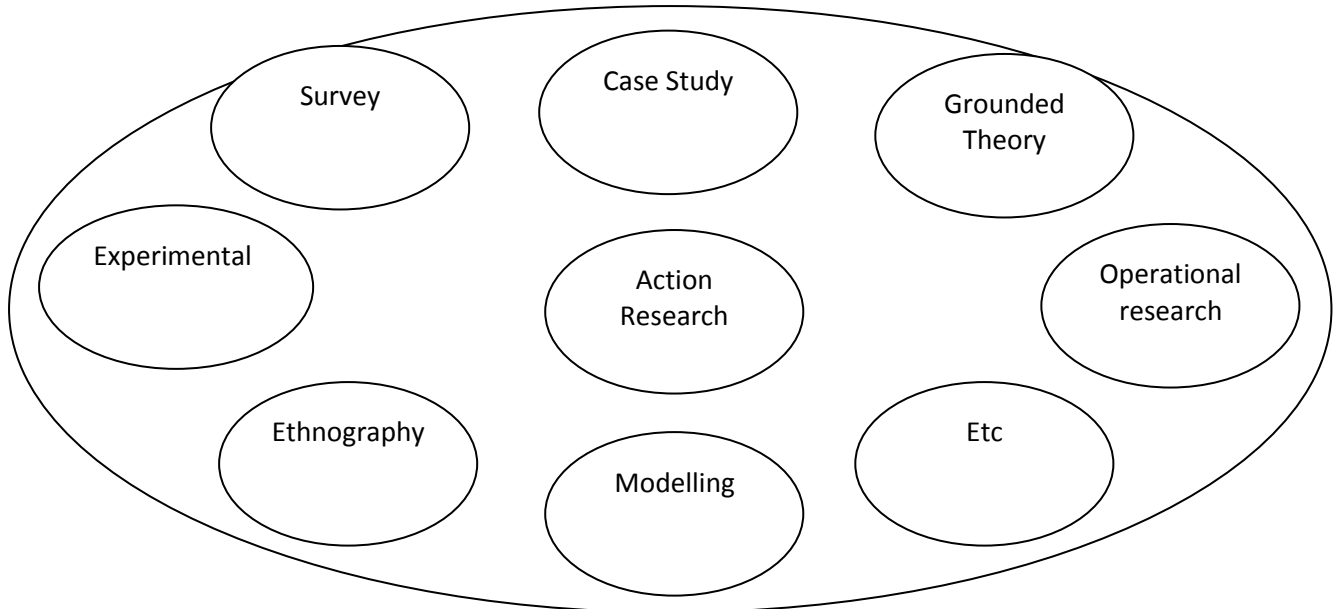
Figure 2: Research Design Alternatives

There are many different research designs or strategies. A number of authors Cavaye (2008); Darke, Shanks, & Broadbent (2002) have stated that they include alternatives such as experiments which are common in pure scientific research; surveys which are often used where large volumes of data are gathered through quantitative methods; grounded theory where the theory is generated by the observations during the study; ethnography which is a phenomenological methodology which stems from anthropology, which uses observed patterns of human activity; action research which is where the research takes the form of a field experiment; modelling which involves developing particular models for the research; operational research which looks at activities and seeks to understand their relationship and

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finally, case studies which involve understanding social phenomena within a particular setting.

A survey research method examined the relationship between organisational factors and knowledge sharing. A self-administered survey questionnaire was used to sample employees within a South African beverage company. Taking into account the nature of the research problem as outlined in chapter 1 and the literature review, it was decided that a survey would be the best method for this study.

The relationship between the following organisational factors and their combined impact on knowledge sharing were tested:

1. IT
2. Learning culture
3. Trust culture
4. Flexible structure and design

4.4 Data sampling

4.4.1 Sample

Sampling is the process which involves the selection of observations. A sample is a subset of a population observed in order to make inferences about the nature of the total population (Babbie & Mouton, 2001).

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Mouton (1996) describes sampling as a research strategy to study objects or phenomena as representative examples of a larger population of similar objects or phenomena. Mouton (1996) states that it is important to distinguish between the target population and the sampling frame. The target population refers to the population which one wishes to generalise, while the sampling frame (unit of analysis) refers to the set of cases from which the sample will be selected.

In order to achieve a valid sample two criteria need to be fulfilled: the sample must be representative, in that the total population, the observations and the significant relationships between them are carefully defined, and the sample should be sufficient, allowing for sufficient confidence to exist in the stability of its characteristics (Goode & Hatt, 1952, cited in (Chorn, 1987)).

This study ensures a representative sample by ensuring a bias analysis of the demographic variables and a sufficient sample size. The sample size in the study is 528.

4.4.2 Sampling Framework

There are two main types of sampling, namely, probability and non probability sampling. Probability sampling provides a way of choosing representative samples from large, known populations. It ensures the sample has a known

representation from the population and a non-zero likelihood of selection (McDaniel & Gates, 2006).

Probability sampling methods allow the researcher to estimate the amount of sampling errors that can be expected in any given sample (Babbie & Mouton, 2001). Probability sampling includes simple random sampling, systematic sampling, stratified random sampling, and cluster sampling.

Non-probability sampling includes samples in which not all of the units of the population have the same probability of being sampled and can involve selection bias in the sample. This takes place because the sample selects sections of the population that are non-random (McDaniel & Gates, 2006).

Given the nature of the research problem outlined in Chapter 1 and the selected unit of analysis, it became clear that non-probability data sampling methods would be appropriate for this research study. Not all units of the population have the same probability of being sampled. Purposive sampling was utilised for this research study.

4.5 Unit of Analysis

The scope of the enquiry is limited to a single South African beverage organisation. The organisation is the South African Breweries (SAB).

4.6 Population

The population consisted of employees from the SAB Egoli region. 528 employees were targeted for this research study and included different designations, genders, race and tenure of employees. Each region reports into the same executive structure and is exposed to the same knowledge sharing strategy, and therefore it was felt that the Egoli region would be representative of all five regions. This conclusion is based on the researchers' personal experience in the organisation.

All employees in the selected population have been exposed to the organisation's knowledge sharing strategy and are therefore relevant for the study.

4.7 Data Collection

4.7.1 Internet Survey

The Internet provides opportunities to conduct surveys more efficiently and in a more effective way than traditional collection procedures.

Zhang (2000) highlighted both the advantages and disadvantages of conducting web-based surveys. Compared to a conventional mail survey, the advantages of Internet-based surveys can be summarised as follows:

- The research costs for sending questionnaires and coding data are

relatively low for Internet-based surveys.

- Internet-based surveys usually have a short turnaround time.

- They easily reach potential respondents in geographically remote areas.

- When a research topic is of a sensitive nature, Internet-based surveys offer a means of reaching a group that is normally difficult to identify or access, such a drug dealers.

- They offer a means of surveying large groups of individuals efficiently.

- They may increase respondents' motivation to participate by providing a dynamic / interactive survey process.

- They may reduce errors caused by transcription and coding. In Internet based surveys, most responses are in electronic format and have been pre-coded.

- Target respondents can complete the survey at their convenience.

However, that is not to say that Internet-based surveys are without their disadvantages. Zhang (2000) indicated that potential problems and concerns unique to Internet-based surveys include the points listed below:

- Biased sample and biased return: respondents may most likely be those who have the skills to use the survey tools and also accept and feel comfortable with Internet surveys.

- Access to the Internet and survey: individuals in a population or sample may not have equal access to the Internet.

- Comfort with the Internet survey format: whenever researchers offered

multiple options for receiving and / or replying to surveys, some respondents chose to use the conventional means of completion, completing surveys on paper.

- Effect of self-selection in Internet-based surveys: most Internet-based surveys depend on self-selected respondents. (Anderson & Gansneder, 1995) found that respondents who were more likely to respond, made use of the computer system more often and more frequently than non respondents.

- Validity of respondents: survey messages are very likely to reach unintended individuals.

- Multiple responses from the same respondent: participants can easily submit their replies many times, consequently making the overall results over-representative of these respondents.

The researcher attempted to address most concerns dealing with the above stated disadvantages.

- Biased sample and biased return - this was a disadvantage the researcher was prepared to accept.

- Access to the Internet and survey - given the network in the business, all respondents had access to the survey via the internal intranet.

- Validity of respondents - since all email addresses of the potential respondents were on the organisation's database, it was assumed that the validity of the potential respondents would be correct.

- Multiple responses from the same respondent cookies were enabled in the survey. Cookies are small text files that a website puts on one's computer to store a variety of information, and in this case they recorded the fact that a respondent completed a survey, thus eliminating duplicates.

4.7.2 Questionnaire

A five point Likert scale was used to ensure sufficient discrimination. A Likert scale is used as a measure of attitudes and is designed to measure how strongly respondents agree or disagree with a statement. (Zikmund, 2003).

The questionnaire was modified from a study conducted by Rhodes *et al* (2008). The first part of the questionnaire included detailed respondent information to ensure the correct classification and allow for statistical analysis.

A pretest was conducted on a subsample of the target population as well as the research supervisor and statistician to determine the validity and design of the questionnaire. The size of the sample was ten respondents and utilised a subsample of the population as well as the research supervisors and statistician. The researcher was specifically looking for respondents' reactions to the questions in terms of ease of understanding, logic of flow, and any confusion or ambiguity that may have arisen. The respondents did not record any adverse reactions to the questions. One or two changes were made with the wording in a couple of questions (See appendix B for pre-test feedback) for ease of understanding. The layout and design were also changed to facilitate ease of use.

The second part comprised of a number of statements that focused on the identified sub factors. A five point Likert scale was used to ensure sufficient discrimination. See Annexure A for full questionnaire.

The identified organisational factors include:

Information technology

The questions pertaining to IT were partly adapted from an IT capability survey conducted by Rhodes *et al* (2008); Tippins $ Sohi (2003), which investigated the relationship between IT and organisational performance.

Learning strategy

The questions pertaining to the learning strategy were partly adapted from a survey conducted by Rhodes *et al. (*2008); Baker & Sinkula (1999), which examined the effect of learning organisations on performance.

Trust culture

The questions pertaining to trust culture were partly adapted from the Trust survey by Rhodes *et al. (*2008); Mayer, Davis & Schoorman (1995), which examined key issues of organisational and personal trust.

Flexible structure and design

The questions pertaining to flexible structure and design were partly adapted from the organisation variables survey by (Rhodes *et al. (*2008); Lok, Hung, Walsh & Crawford (2005), which looked at the relationships between various organisational variables and the effects on improvement programmes.

Knowledge transfer

The questions pertaining to knowledge transfer were partly adapted from surveys by Rhodes *et al. (*2008); Nonaka & Takeuchi (1995), Alavi & Leidner, 2001, Bhatt (2001). Four questions were selected to identify the codification of knowledge transfer and another three questions were selected to identify the personalisation of knowledge transfer.

4.8 Data Analysis

The data was downloaded from the questionnaire on the website. Descriptive analysis was conducted in order to understand the sample of respondents and to verify that the sample was representative of the population. The questions were grouped together and analysed in terms of means and standard deviations of the factor as a whole, as well as by individual questions, in order to understand how the respondents measured up in terms of individual factors. The data was also checked for validity in each case in order to ensure that a representative view was obtained. An overall knowledge sharing factor was created from the two underlying factors which allowed the researcher to determine the impact of the sub factors on the overall factor.

A reliability analysis was carried out on each section of the questionnaire that measured a particular variable to try and understand the extent to which the questions used in each case described the variable being measured. This ensured that the researcher was able to determine the reliability of the questionnaire in measuring the different variables.

A stepwise linear regression was utilised to determine which of the sub factors in combination showed the highest effect on knowledge sharing. This measured which factors had the best prediction of overall knowledge sharing within the organisation.

4.9 Research limitations

The research will have the following limitations:

- Only a single organisation in a single industry will be used, therefore the findings may not be statistically relevant for other companies.
- A westernised organisation was used and therefore the results may not be relevant across different cultural settings.
- A purposive sampling method was used and therefore the results may not be representative of the entire organisation.
- Non response bias may occur.
- Response bias may be seen due to the researchers' position within the organisation.

- Subject effect may occur as respondents answer the questions in a way they think is right as opposed to being totally honest.

- Poor understanding of questions may occur.

- The identified organisational factors may change over time due to the rapid change in the business environment.

- All factors were tested together using a step wise linear regression rather than being tested in isolation.

4.10 Summary

The research design was outlined in this chapter. The research approach and research methodology were discussed against the background of the stated research objectives. The most effective research approach selected can be described as quantitative and non-experimental, with the usage of primary data as the design of analysis. This approach was selected based on the stated research objectives. The research methodology referred to the target population and research procedure, which resulted in a sampling process whereby a self-administered electronic survey would be utilised. The research methodology continued with the measuring instruments where satisfactory rationale and theoretically sound reliability and validity were provided. Lastly, the statistical procedures were laid out, highlighting the path chosen to achieve the research objectives in the analysis of the data.

The following chapter will discuss the results of the statistical analysis.

5 RESULTS

In the previous chapter, the research design was outlined and the research approach and research methodology discussed. The research methodology referred to the target population, research procedure, measuring instruments, and the statistical procedures used in the analysis of the data. The present chapter deals with the results of the research objectives addressed by the research design.

In this chapter, the results of the various procedures (indicated in the statistical flow chart process below) are documented and the most significant observations made. See Appendix E and F for the detailed statistical reports. Figure 3 depicts the processes to be followed;
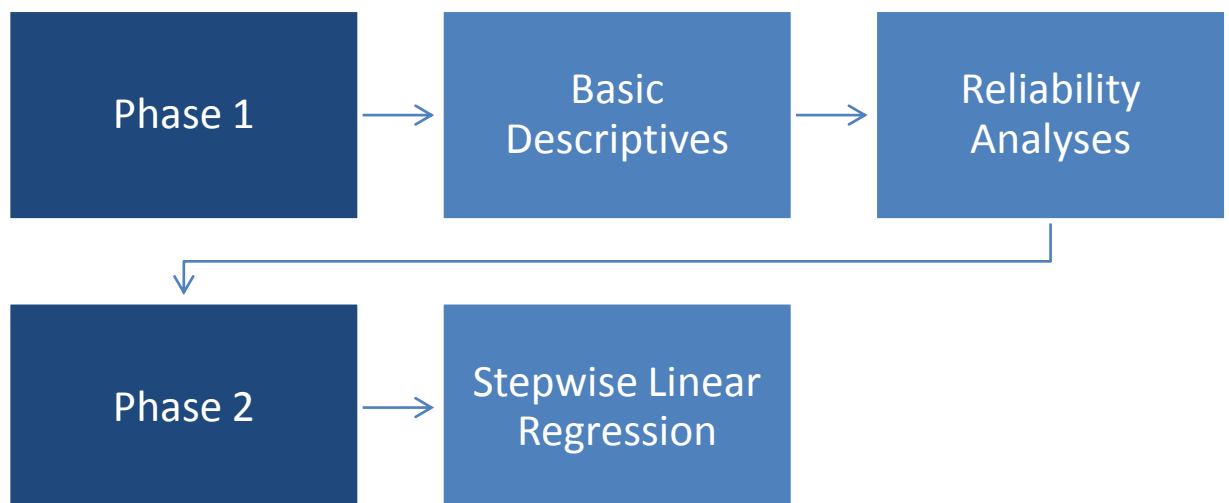
Figure 3: Statistical Flow Process

The first phase of the analysis comprises the initial diagnostic testing whereby statistical reliability and validity are determined. In this, results of the descriptives and reliability analyses are addressed. The main focus of the first phase of the data analysis is to provide proof that the measuring instruments and variables were reliable and valid for the purpose of the study.

In the second phase, the results will be described by referring to the objectives of the study, namely to end with a best-fitting predictive model incorporating significant variables. This will be addressed by means of a stepwise linear regression.

5.1 Phase I

Basic Descriptive Statistics

The following categories of descriptive statistics to be discussed are set out below.

5.1.1 Demographics

This involves basic descriptives of the sample at hand. The details of the participants (demographics) are provided in below in Table 1. The demographics were collected from section one of the questionnaire. 7 Questions were used to collect the demographic information.

Demographic Information	Respondents	Percentage
Gender		
Male	123	59%
Female	86	41%
Total	209	100%

Demographic Information	Respondents	Percentage
Race		
Asian	8	4%
Black	88	42%
Coloured	9	4%
Indian	7	3%
White	97	46%
Total	209	100%
Age		
21 - 25	42	20%
26 - 30	71	34%
31 - 35	34	16%
26 - 45	29	14%
46+	26	12%
Missing	7	3%
Total	209	100%
Level of Education		
Grade 11 or lower	7	3%
Grade 12/Matric	37	18%
National diploma/Certificate	57	27%
Undergraduate degree	48	23%
Post graduate degree	60	29%
Total	209	100%
Demographic Information	Respondents	Percentage

Job Grade		
Grade C-F	100	48%
Grade OE	38	18%
Grade PE	46	22%
Grade FA+	25	12%
Total	**209**	**100%**
Tenure		
<3 months	6	3%
3-6 months	15	7%
7-11 months	13	6%
12-24 months	34	16%
>24 months	141	68%
Total	**209**	**100%**

Demographic Information	Respondents	Percentage
Department		
Sales	75	36%
Operations	77	37%
Systems	4	2%
Risk	3	1%
Fleet	6	3%
Finance	10	5%
Credit	5	2%
Human Resources	6	3%
Other	23	11%
Total	**209**	**100%**

Table 1: Demographic Information of the Respondents

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The important information from Table 1 is summarised below.

The respondents were predominantly male, with an equal mix between white and black, primarily between the ages of 30 to 49, and had more than two years tenure within the organisation. Further, most were on the Grade C-F job level with 70% in the Sales and Operations departments.

5.1.2 Descriptive Statistics of the Knowledge Sharing Evaluation Section

Depicted in the factors below are the means and standard deviations for each item. The full output relating to all questions can be found in Annexure A. (Note: Standard Deviation → SD)

1. Information Technology			
Question	N	Mean	SD
Our company is good at using information technology(IT) to improve performance	180	4.26	0.994
IT efficiently integrates the key capabilities of our company	180	4.19	0.986
IT in this company has provided support and improvement to employees' skill	180	4.09	1.045
Managers are good at using IT to communicate with employees	179	4.09	0.946

Table 2: Descriptive Statistics of Information Technology

From the above table it can be see that all questions were favourably answered i.e. a positive inclination towards Information Technology. This is further

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supported by the fact that the majority of the questions experience higher than average mean values (given that the Likert scale is divided into five categories). The question "Our company is good at using information technology (IT) to improve performance" scored highest while the questions "IT in this company has provided support and improvement to employees' skill and Managers are good at using IT to communicate with employees" scored the lowest.

2. Trust Culture			
Question	N	Mean	SD
Employees' contribution and effort are appreciated by the company	180	3.94	0.946
Senior managers support employees suggested ideas when they differ from their own	180	3.66	0.987
The company encourages employees' learning and tolerates employees' mistakes	180	3.67	1.083
The manager of my department trusts his/her employees' working capability	180	4.23	0.958
The atmosphere of the company helps employees trust others	180	3.71	1.076

Table 3: Descriptive Statistics of Trust Culture

From the above table it can be see that all questions were favourably answered i.e. a positive inclination towards Trust Culture. This is further supported by the fact that all of the questions experience higher than average mean values. Easily the highest scoring item was "The manager of my department trusts his/her employees' working capability". With a personal aspect introduced into the question, respondents are inclined to score themselves more favourably.

3. Learning Strategy			
Question	N	Mean	SD
Employees help each other learn	180	4.19	0.777
The company encourages employee discussion and team learning	179	4.28	0.828
The company offers a learning environment which facilitates innovation	180	4.10	0.928

Table 4: Descriptive Statistics of Learning Strategy

From the above table it can be see that all questions were favourably answered i.e. a positive inclination towards learning strategy. This is further supported by the fact that all of the questions experience a higher than average mean. The question **"**The company encourages employee discussion and team learning" was easily the highest scoring question. The lowest scoring question was "The company offers a learning environment which facilitates innovation".

4. Flexible Structure and Design			
Question	N	Mean	SD
The company has many cross-functional teams	179	4.11	0.977
The organisational structure is fairly flat	179	3.30	1.130
The organisational structure facilities effective knowledge sharing	179	3.84	0.931

Table 5: Descriptive Statistics of Flexible Structure and Design

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From the above table it can be see that all questions were favourably answered i.e. a positive inclination towards Flexible Structure and Design. This is further supported by the fact that all of the questions experience higher than average mean values. Of all items in the questionnaire, "The organisational structure is fairly flat" scored the lowest.

5. Knowledge Sharing			
Question	**N**	**Mean**	**SD**
The company saves and renews important information into a system for easy browsing	179	4.11	0.935
Knowledge is categorised in the database for use by all company employees	179	3.97	1.027
The company saves important information though words and pictures in the database	179	3.91	0.976
Employees use e-mail or the internal network to share their knowledge with others	179	4.27	0.833

Table 6: Descriptive Statistics of Knowledge Sharing

From the above table it can be see that all questions were favourably answered i.e. a positive inclination towards Knowledge Sharing. This is further supported by the fact that all of the questions experience higher than average mean values, mostly centred around the "4" value. The question "Employees use e-mail or the internal network to share their knowledge with others" scored the highest while the question "The company saves important information though words and pictures in the database," scored the lowest.

6. Personalisation of Knowledge Sharing			
Question	N	Mean	SD
Employees are willing to share their experience and knowledge	179	4.00	0.977
The company effectively shares employee experiences with other employees	179	3.80	1.034
The company effectively shares knowledge with employees through training courses, presentations and internal communication	179	4.32	0.909

Table 7: Descriptive Statistics of Personalisation of Knowledge Sharing

From the above table it can be seen that all questions were favourably answered i.e. a positive inclination towards personalisation of Knowledge Sharing. This is further supported by the fact that all of the questions experience higher than average mean values. The question "The Company effectively shares knowledge with employees through training courses, presentations and internal communication" easily scored the highest. This highlights that the organisation is effectively transferring knowledge through different means such as training and presentations.

5.1.3 Summary of Descriptive Statistics of the Total Scores

Depicted in the items below are the means and standard deviations for all factors. (Note: Standard Deviation → SD)

Factor	Valid	Missing	Mean	SD
1. Information Technology	180	29	4.16	0.82
2. Trust Culture	180	29	3.84	0.79
3. Learning Strategy	180	29	4.19	0.73
4. Flexible Structure and Design	179	30	3.75	0.81
5. Knowledge Sharing	179	30	4.06	0.77
6. Personalisation of Knowledge Sharing	179	30	4.04	0.80
7. Overall: Knowledge Sharing	179	30	4.06	0.71

Table 8: Descriptive Statistics of the Overall Factors

From the above table it can be seen that 'learning strategy and information technology' had the most positive responses from the sample, almost half a category score higher than 'lower flexible structure and design'. Regardless, on an overall level, all factors shared a positive outcome.

Figure 4: Factors

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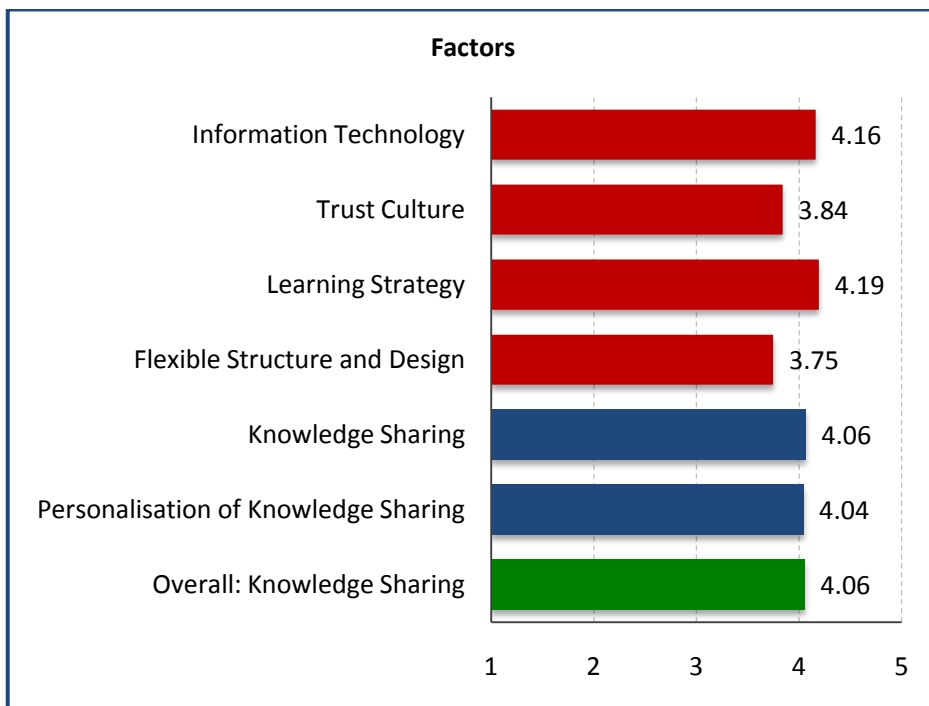
Figure 4 highlights the consistent answers for both knowledge sharing sub-factors, resulting in a positive overall knowledge sharing factor.

5.1.4 Results of the Reliability Analyses

Reliability is considered to be an assessment of the degree of consistency between multiple measurements of a variable. A measurement instrument that is reliable will provide consistent results when a given individual is measured repeatedly under near-identical conditions. The diagnostic measure used is the reliability coefficient that assesses the consistency of the entire scale, namely Cronbach's Alpha, which is the most widely used measure. Cronbach's Alpha values will now be provided for all three overall constructs. The generally agreed upon lower limit for Cronbach's Alpha is 0.70, although it may decrease to 0.60 in exploratory research (Hair, Black, Babin, Anderson, & Tatham, 2006).

The result obtained from the iterative reliability analysis across all factors yielded a Cronbach's Alpha greater than 0.7, indicating an acceptable reliability. It was also noted that the removal of any questions would not have had a significant improvement on the already attained Cronbach's Alpha (see Appendix D).

Factor	No. Items	Cronbach's Alpha
1. Information Technology	4	0.844
2. Trust Culture	5	0.844
3. Learning Strategy	3	0.826
4. Flexible Structure and Design	3	0.710
5. Knowledge Sharing	4	0.832
6. Personalisation of Knowledge Sharing	3	0.797

Table 9: Summary of Reliability Analysis of all Factors

The Cronbach's Alpha coefficients of all the sections indicate that the overall scales have an acceptable reliability and can consistently measure the particular factors of the magnitude they are designed to measure. In other words, the measuring instruments are capable of consistently reflecting the same underlying constructs. Furthermore, this consistency indicates a high degree of homogeneity between the each section's items.

Due to the need to create a new, overarching factor from the factors of knowledge sharing and personalisation of knowledge sharing, a reliability analysis was carried out across all the items from both factors depicted in Table 10 below:

Item	Item-Total Correlation	Cronbach's Alpha if Item Deleted
The company saves and renews important information into a system for easy browsing	0.657	0.837
Knowledge is categorised in the database for use by all company employees	0.662	0.836
The company saves important information though words and pictures in the database	0.692	0.832
Employees use e-mail or the internal network to share their knowledge with others	0.552	0.851
Employees are willing to share their experience and knowledge	0.582	0.847
The company effectively shares employee experiences with other employees	0.652	0.838
The company effectively shares knowledge with employees through training courses, presentations and internal communication	0.602	0.844

Number of Items = 7; Cronbach's Alpha = 0.860

Table 10: Iterative Item Reliability Analysis of Overall: Knowledge Sharing

The result obtained from the iterative reliability analysis of the overall knowledge sharing factor yielded a Cronbach's Alpha of 0.860 based on seven items, indicating an acceptable reliability. All Corrected Item-Total Correlations are above 0.3, indicting sufficient correlation of each item with the overall factor. It can also been seen that removal of any question will not improve on the already attained Cronbach's Alpha. Hence the construction of the overarching Knowledge Sharing factor is feasible.

5.2 Phase II

In order to address the research objective detailing what the best predictors of knowledge sharing are, a stepwise linear regression was carried out.

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5.2.1 Stepwise Linear Regression

The purpose of linear regression analysis is to determine the independent roles of organisational factors in explaining the variance in knowledge sharing. Here all independent variables, namely the four organisational factors, will be regressed on the dependent variable overall: knowledge sharing.

The results of the stepwise linear regression are laid out below. Two tables are pivotal in determining the fit and acceptability of the model. The initial table depicts the variables entered and the fit of the model where the R-squared and Adjusted R-squared are presented. The second indicates the extent of multi-colinearity present in the model and the parameter estimates (coefficients) for each of the independent variables.

As can clearly been seen from Table 11, through the stepwise estimation technique only the combination of learning strategy, Information Technology and flexible structure design are found to be significant, resulting in a final model predicting 62% of variance in overall: knowledge sharing.

Model	Variables Entered	R^2	Adjusted R^2
1	Learning Strategy	0.425	0.421
2	Information Technology	0.596	0.591
3	Flexible Structure and Design	0.626	0.619

Table 11: Model Summary

Dependent Variable: Overall: Knowledge Sharing

Table 11 indicates that colinearity statistics are within an acceptable range for the model. Tolerance levels are above the 0.1 level, while, conversely, Variance Inflation Factor levels are below the level of 10. The Condition Index is situated below 30. Parameter estimates indicate that the combination of all selected factors have a positive impact on overall: knowledge sharing.

The following abbreviations have been used:

- Unstandardised Beta Coefficients → Beta;
- t Statistic → t Stat.;
- Variance Inflation Factor → VIF;
- Tolerance → Tol.;
- Condition Index → Cond.;
- Learning Strategy → LS;
- Information Technology → IT; and
- Flexible Structure and Design → FSD.

Model		Beta	t	*p*-value	Collinearity Statistics		
					Tol.	VIF	Cond
1	(Constant)	1.418	6.050	.000			11.556
	LS	0.628	11.399	.000	1.000	1.000	
2	(Constant)	0.536	2.414	.017			14.163
	LS	0.454	8.992	.000	0.840	1.190	
	IT	0.387	8.608	.000	0.840	1.190	
3	(Constant)	0.489	2.276	.024			18.212
	LS	0.346	6.080	.000	0.619	1.617	

IT	0.325	6.997	.000	0.733	1.365	
FSD	0.203	3.725	.000	0.550	1.819	

Table 12: Coefficients and Colinearity Diagnostics of Model

Dependent Variable: Overall: Knowledge Sharing

Thus the final equation achieved in the predicting of overall: knowledge sharing can be represented as follows:

Overall: Knowledge Sharing = 0.489
+ (0.346 * Learning Strategy)
+ (0.325 * Information Technology)
+ (0.203 * Flexible Structure and Design)

5.3 Summary

5.3.1 Phase I

The procedures described below were carried out with subsequent highlights addressed.

Basic Descriptives are primarily used to provide the researcher with a 'bird's eye' view of the data at hand. Average values were all above a mean score of three.

Reliability Analyses – Further assisted in establishing the reliability and validity of the measuring instruments used in the study; all Cronbach's Alpha values were found to exceed the level of 0.7.

5.3.2 Phase II

The regression procedure was carried out and, together with the main results, can be summarised below.

Stepwise Linear Regression – This procedure determined the best fitting model incorporating the three organisational factors that loaded significantly on the dependent variable. The final model attained consisted of the predicted, overall: Knowledge Sharing, being significantly predicted by, learning strategy, Information technology, and flexible structure and design. The Adjusted R-Square value was 0.619.

6 DISCUSSION

For the purposes of this study all the research objectives have been met. A positive relationship between three of the four identified sub factors and knowledge sharing has been proven. These results support three of the four hypotheses proposed by the researcher.

6.1 Phase I

6.1.1 Basic Descriptives

Figure 5: Tenure

What is your race?

Figure 6: Race

What department do you currently work in?
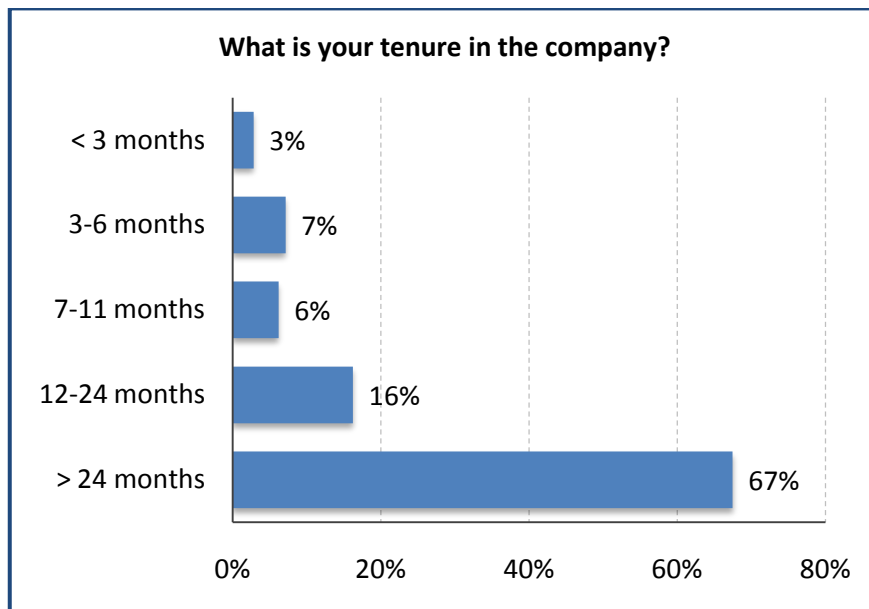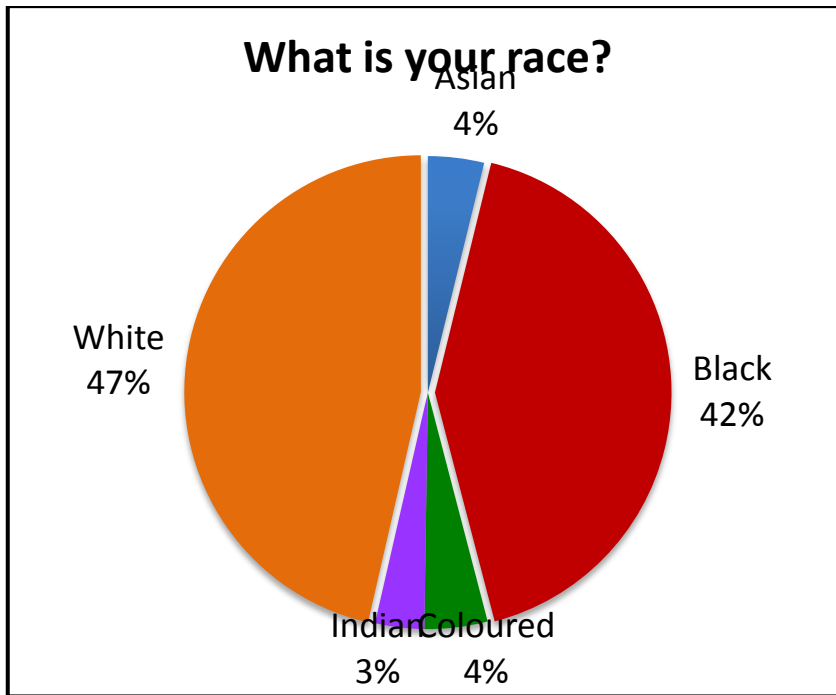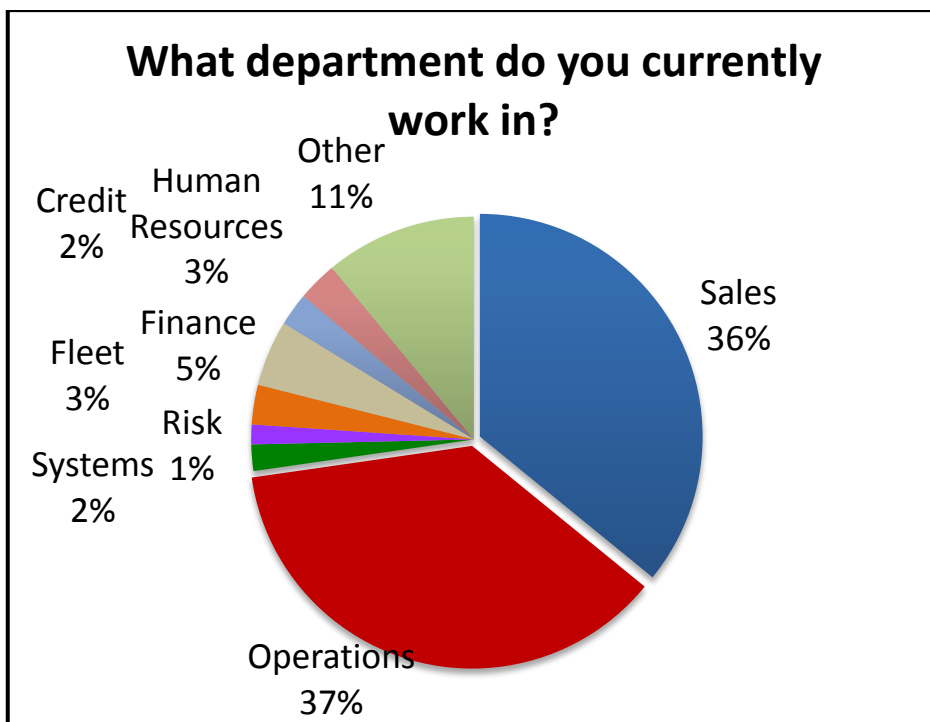
Figure 7: Department breakdown

The respondents were predominantly male, with an equal mix between white and black, primarily between the ages of 30 to 49, and had more than two years tenure within the company. Further, most were on the Grade C-F job level while 70% were in the Sales and Operations departments. This is a representative sample of the organisations make up and therefore ensures that the responses can be utilised effectively for research purposes. Further reliability to respondents' answers is proven given that close to 70% have had over two years exposure with the organisation as seen from figure 5. This ensures that close to 70% of the respondents have been exposed to the different sub factors over a significant period and this therefore increases the reliability of responses

There were no concerns with the sample that was achieved.

6.1.2 Descriptive Statistics of the Knowledge Sharing Evaluation Section

From the preceding discussion in chapter five it can be seen that all factors shared a positive outcome. This is supported by the fact that the majority of the questions experienced higher than average mean values (given that the Likert Scale is divided into five categories).

Table 8 below highlights that learning strategy and Information technology had the most number of positive responses from the sample; almost half a category score higher than flexible structure and design..

Factor	Valid	Missing	Mean	SD
1. Information Technology	180	29	4.16	0.82
2. Trust Culture	180	29	3.84	0.79
3. Learning Strategy	180	29	4.19	0.73
4. Flexible Structure and Design	179	30	3.75	0.81
5. Knowledge Sharing	179	30	4.06	0.77
6. Personalisation of Knowledge Sharing	179	30	4.04	0.80
7. Overall: Knowledge Sharing	179	30	4.06	0.71

Table 8: Descriptive Statistics of the Overall Factors

6.2 Phase II

6.2.1 Stepwise Linear Regression

A stepwise linear regression was conducted to determine which factors in combination had a significant and positive impact on knowledge sharing within the stated organisation. The final model attained consisted of the predicted, overall: knowledge sharing factor, being significantly predicted by; learning strategy, Information technology, and flexible structure and design. The Adjusted R-Square value was 0.619. Therefore 62% of knowledge sharing within the organisation can be accounted for by these three factors. This model summarises the overall factors that were tested against knowledge sharing and highlights to the researcher the three most important factors in determining effective knowledge sharing. One test effectively shows through the combined contribution of all variables that trust culture does not have a positive and significant effect on knowledge sharing when tested together with IT, learning strategy and flexible structure and design. This contrasts with Rhodes *et al.*

(2008) who highlighted that trust culture has a positive impact on knowledge sharing. Figure 6 presents the final model visually, together with the relevant parameter estimates.
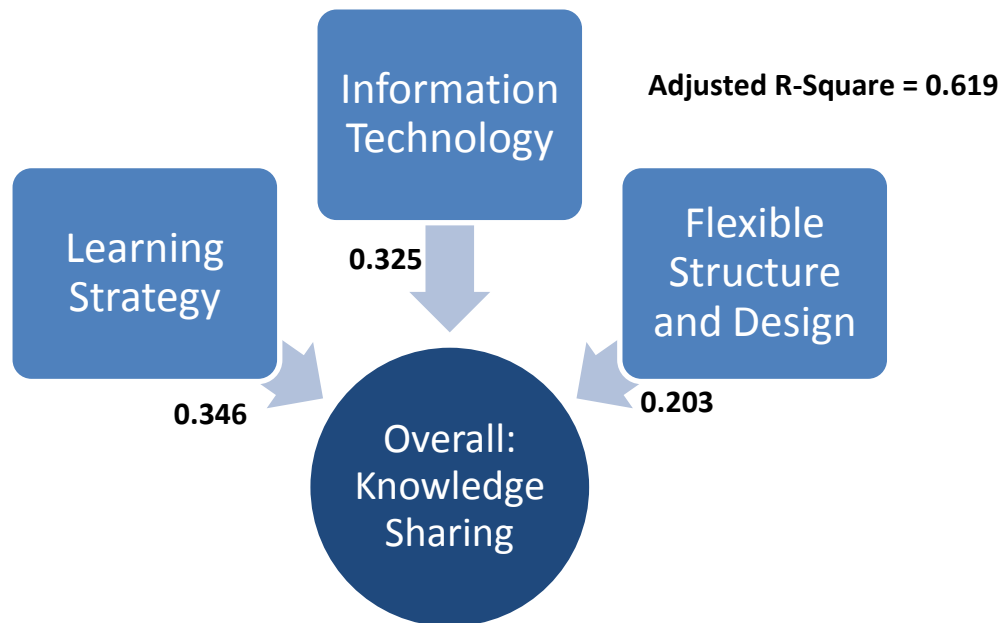
Figure 8: Final knowledge Sharing Model

6.3 Research Hypotheses and individual sub factor discussion

The four hypotheses were answered using a single stepwise linear regression test. A detailed discussion in terms of each sub factor and the research hypotheses follows;

6.3.1 IT and Knowledge sharing

H_0: IT systems **do not** have a positive and significant influence on knowledge sharing.

H_1: IT systems have a positive and significant influence on knowledge sharing.

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This means that the null hypothesis is rejected in this case and there is a positive relationship between IT and knowledge sharing.

In the context of this research this means that IT systems are an effective medium to promote knowledge sharing within this organisation. In this organisation there exists a positive inclination towards IT; the average mean for IT was 4.16 and was the second highest knowledge sharing sub factor. The question "Our company is good at using information technology (IT) to improve performance", scored the highest. This indicates that the organisation is especially effective in using IT systems to improve performance.

The question "IT in this company has provided support and improvement to employees' skill" scored the lowest and also had the highest standard deviation. This could be an indication that the current IT systems in place are not effective to all levels of employees in improving their skills.

This result corroborates the findings of Davenport & Prusak (1998), Rhodes *et al. (2008)*, who showed that IT systems have a significant impact on Knowledge Sharing. The findings are also in line with (Bharadwaj, 2000), that IT systems enable the formalisation of knowledge and consolidation of previous knowledge across the organisation.

6.3.2 Learning Strategy and Knowledge Sharing

H_0: Learning strategy **does not** have a significant and positive influence on knowledge sharing.

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H_1: Learning strategy has a significant and positive influence on knowledge sharing.

The null hypothesis is rejected in this case as there is a positive relationship between learning strategy and knowledge sharing as per the regression analysis that was conducted.

In the context of this research this means that the current learning strategy of the organisation is effective in promoting knowledge sharing. In this organisation there exists a positive inclination towards learning strategy; the average mean for learning strategy was 4.19. Learning strategy scored the highest out of all the different factors, indicating that the organisation is performing best in this area as per the respondents' feedback.

The question "The company encourages employee discussion and team learning" scored the highest. Senge (1990) described how organisational learning, the ability to learn from others and the culture of openness within the organisation could have a significant impact on how knowledge is transferred. This highlights that the organisation is effective in encouraging an environment that promotes employees to speak out.

The question "The company offers a learning environment which facilitates innovation" scored a mean of 4.10. This is important as the learning strategy of an organisation has been closely linked with effective knowledge sharing (Senge, 1990).This highlights that the organisation is effective at promoting innovation. Rhodes et al (2008) discussed how the learn and contribute process

areas are important in creating innovation. With a mean score of 4.10 it is clear that this organisation is effective in creating innovation through its current learning environment.

6.3.3 Trust Culture and Knowledge Sharing

H_0: Trust culture **does not** have a significant and positive influence on knowledge sharing.

H_1: Trust culture has a significant and positive influence on knowledge sharing.

This means that the null hypothesis is not rejected in this case as the regression test did not show a significant and positive relationship between trust culture and knowledge sharing.

In this organisation there exists a positive inclination towards trust culture; the average mean for trust culture was 3.84. The question "The manager of my department trusts his/her employees' working capability" easily scored the highest. This is important as the culture of trust among individuals has to be cultivated and supported by management (Mayer, Perrone, & Zaheer, 2003).

In this study the null hypothesis was not rejected. In the context of this research this means that the current trust culture of the organisation is not seen as having a positive and significant effect on knowledge sharing in conjunction with the other three sub factors.

This result is in contrast to the findings of Rhodes *et al.* (2008); Knapp (1998) & Conner & Prahalad (1996); that showed that trust culture has a significant impact on knowledge sharing in companies. The regression testing method utilised for this research was highlighted as a possible concern in chapter four. The results for trust culture are stated with caution as a number of other studies have found a positive relationship between trust culture and knowledge sharing (Mayer *et al.*1995). It is almost intuitive that employees are more likely to share knowledge within an environment where there are high levels of trust. As discussed, the research was focussed on identifying which of the variables in combination with each other have the biggest impact on knowledge sharing, and trust culture was the sub factor that was excluded due to its impact on knowledge sharing when combining it with the other three sub factors.

6.3.4 Flexible Structure and Design

H_0: Flexible structure and design **does not** have a significant and positive effect on knowledge sharing.

H_1: Flexible structure and design has a significant and positive effect on knowledge sharing.

The null hypothesis is rejected in this case as there is a positive relationship between flexible structure and design and knowledge sharing.

In the context of this research this means that the current flexible structure and design of the organisation is effective in promoting knowledge sharing. In this

organisation there exists a positive inclination towards the current flexible structure and design; the average mean for flexible structure and design was 3.75. The overall scores for flexible structure and design fell the closest to the midpoint on the scale which was represented by a 3. This neutrality amongst the respondents highlights their uncertainty towards the organisation's structure.

The question "The company has many cross-functional teams" easily scored the highest. Cross-functional teams may facilitate the formulation of a knowledge map for employees to use to find the appropriate knowledge (Greengard, 1998).

The questions "The organisational structure is fairly flat" and "The organisational structure facilities effective knowledge sharing´ scored the lowest indicating that employees are not quite sure of the organisational structure and its effectiveness. The organisational design can be a major factor on whether or not knowledge can be effectively integrated within the organisation (Grant, 1996).

This result corroborates the findings of Rhodes *et al. (2008)*, who showed that flexible structure and design had a significant impact on knowledge sharing in companies. This is relevant as managers can focus on the flexible structure and design to improve knowledge sharing within the organisation.

6.4 Summary

An overview of the research results were discussed in terms of the research question, research hypotheses and literature review. The findings of the different statistical testing methods were discussed in detail. The overall objectives of the study have been met. All four sub factors which were identified through the literature review; IT systems, learning strategy, trust culture and flexible structure and design showed a positive inclination from the respondents (all sub factors had a mean greater than 3).

A final model was devised which presented which factors in combination with each other had the greatest impact on knowledge sharing. The three factors were; IT systems, learning strategy and flexible structure and design. Trust culture was excluded from the model as the results showed it not to have a significant positive impact on knowledge sharing. Recommendations were discussed based on the results as well as possible areas for future research.

7 CONCLUSION

7.1 Main findings

Knowledge sharing is an important mechanism to improve the skill set of employees within an organisation and therefore the competitiveness of an organisation (Davenport & Prusak, 1998; Foss & Pederson, 2002; Grant, 1996).

A thorough review of the current literature and theory base was conducted in order to understand knowledge sharing and specifically the factors which may impact on it. A number of these factors were identified through the literature with the researcher deciding to test the impact of four specific factors on knowledge sharing within the organisation. A rigorous approach was conducted in order to establish the impact of these four different factors and the magnitude of the impact each factor has on knowledge sharing within the organisation.

Data was gathered using a questionnaire in which every attempt was made to alleviate the effects of measurement reactivity. The questionnaire was formulated using a number of different scales that have been proven to be reliable, based on previous research as well as through this research. Every attempt was made to ensure that this construct was valid, including pre testing the questionnaire on a sample of the population and utilising previous research that has been conducted on the subject. Once the data had been gathered, two phases of statistical testing were conducted.

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Phase I focused on basic descriptives which gave the researcher a 'bird's eye' view of the data and showed that the average values emphasised a positive sentiment towards all factors. A total of 209 respondents were recorded of which 179 were fully completed. The respondents were predominantly male, with an equal mix between white and black, primarily between the ages of 30 to 49 and had more than two years tenure within the company. Further, most were on the Grade C-F job level while 70% were in the Sales and Operations departments. The demographic split highlighted that the data was a fair representation of the actual organisations make up and was therefore a representative sample.

A reliability analysis was conducted which further established the reliability and validity of the measurement instruments used in the study. Initially the researcher started out with two factors, namely knowledge sharing and personalisation of knowledge sharing. In order to simplify the research an overarching dimension named 'overall knowledge sharing' was created. A reliability analysis was then conducted in order to determine the validity of the new dimension in the research.

All four factors were seen to be in a positive state within the organisation. The factors which showed the most positive responses from the population were learning strategy (mean of 4.19) and Information Technology (4. 16). Flexible structure and design scored the lowest (mean of 3.75), although this is still a positive result.

This is important as senior managers can direct resources into improving the factors which scored lower means, provided that they were shown to have a significant and positive influence on knowledge sharing in the organisation through the regression analysis.

IT

There is an opportunity for managers to utilise the positive inclination towards IT systems as a means to increase knowledge sharing by improving the current system. This is relevant as managers can utilise IT systems to improve knowledge sharing within the organisation. It is important to understand that IT systems are only a support mechanism to knowledge sharing and just implementing an IT system will not necessarily result in improved knowledge sharing. A number of other factors such as equitable reward system, openness and willingness of employees to share information and the learning ability of employees, play a major role in the effectiveness of knowledge sharing (Rhodes *et al, 2008)*.

Learning strategy

The theory base highlighted that management and leadership involvement and support are important in order to effectively integrate knowledge sharing strategies within the organisation. Therefore managers can focus on improving the organisation's learning strategy to improve knowledge sharing by taking ownership of the process and being more involved.

Trust Culture

The organisation scored the lowest on trust culture with a mean of 3.84. There is an opportunity within this organisation to improve the levels of trust. Areas which managers could focus their efforts could be; supporting employees ideas, tolerating employee mistakes and the improving the atmosphere of the organisation. The overall score of 3.84 is still positive and these recommendations should be seen in that light.

Flexible Structure and design

This organisation scored the lowest on flexible structure and design in terms of current effectiveness (mean of 3.75) and therefore should be an area of focus for managers within this organisation and possibly others. A key focus area was the result for the question "The organisational structure is fairly flat". The respondents' feedback highlighted that there is an opportunity to flatten the current structure. If this is done it may result in improved knowledge sharing.

The researcher moved to Phase II which utilised a stepwise linear regression in order to determine the best fitting model, incorporating the different organisational factors that loaded significantly on the dependent variable; overall knowledge sharing. Three of the four factors; IT, learning strategy and flexible structure and design, were seen to contribute 62% to the effectiveness of the overall knowledge sharing factor and therefore only the hypothesis for trust culture was not rejected.

The findings of the regression analysis suggest that managers can prioritise their resources in order to improve knowledge sharing within the organisation, which will ultimately lead to an increase in competitiveness. The combination of IT systems, learning strategy and flexible structure and design contributed 62% of the overall positive influence on knowledge sharing when combined. Managers can prioritise spend on these 3 factors in combination in order to have the biggest impact on improving knowledge sharing.

Trust culture was also identified as a factor which may improve knowledge sharing within the organisation. The result is almost intuitive as employees are more likely to share knowledge within an environment where there are high levels of trust. The results did not corroborate previous research; however this finding was stated with caution.

The flexibility of the structure and design of the organisation was also identified as an area which may improve knowledge sharing within the organisation. If this is achieved, the ease of information flow throughout the organisation will improve and therefore impact on knowledge sharing. Managers need to look for ways to ensure the design is suited to this, as well as ensuring it is flexible enough to adapt to changing needs.

7.2 Possible areas for future research

Future research studies could use time-series analysis to test the reliability and validity of the research. Qualitative data could also be used to complement the current research. As only a single organisation in a single industry was used, further studies may include different industries. The study was based in South Africa and therefore is limited to the cultural context of South Africa; future studies may include cross cultural settings. Certain factors were used in this research and the testing of different factors could be highlighted and tested in order to understand their impact on knowledge sharing.

8 REFERENCES

Adler, P. S., & Kwon, S. W. (2002). Social Capital:Prospects for a new concept. *Academy of Management* , 27, 17-40.

Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management sytems: Conceptual foundations and research issues. *MIS Quarterly* , 25(1), 107-136.

Anderson, E., & Weitz, B. (1989). Determinants of Continuity in Conventional Industrial Dyads. *Marketing Science* , 8 (4) 310-323.

Anderson, J. C., & Narus, J. A. (1990). A Model of Distributor Firm and Manufacturing Firm Working Partnerships. *Journal of Marketing* , 54 (1) 42-58.

Anderson, S. E., & Gansneder, B. M. (1995). Using electronic mail surveys and computer-monitored data for studying computer-mediated communication systems. *Social Science Computer Review* , 13 (1) 33 – 46.

Argote, L. (1999). Organizational learning: Creating, retaining and transferring knowledge. *Norwell MA: Kluwe* .

Argote, L., McEvily, B., & Reagans, R. (2003). Managing knowledge in organizations:An integrative framework and review of emerging themes. *Management Science* , 49 (4) 571-582.

Arthur, J. B., & Huntley, C. L. (2005). Ramping up the organizational learning curve: Assessing the impact of deliberate learning on organizational performance. *Academy of Management Journal* , 48(6) 1159−1170.

Babbie, R. E., & Mouton, J. (2001). *The practice of social research.* Oxford: Oxford University Press.

Babcock, P. (2004). Shedding light on knowledge management. *HR Magazine* , 49(5) 46−50.

Baker, W. E., & Sinkula, J. M. (1999). The synergistic effect of market orientation learning organizational performance. *Journal of the Academy of Marketing Science* , 27 (4) 411-27.

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organisational reward systems. *Journal of Leadership and Organisation Studies* , 9 (1) 64-76.

Bharadwaj, A. S. (2000). A resource-based perspective on information technology, capability and firm performance: An empirical investigation. *MIS Quarterly* , 24(1), 169-196.

Bhatt, G. D. (2001). Knowledge management in organisations: examining the interaction between technologies, techniques and people. *Journal of Knowledge Management* , 5 (1) 68-75.

Bordia, P., Irmer, B. E., & Abusah, D. (2006). Differences in sharing knowledge interpersonally and via databases: The role of evaluation apprehension and perceived benefits. *European Journal of Work and Organizational Psychology* , 15(3) 262−280.

Brown, J., & Duguid, P. (1991). Organisational learning and communities of practice: Toward a unified view of working, learning and innovation. *Organisation Science* , 2 (1), 40-57.

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Bukowitz, W., & Williams, R. (1999). *The Knowledge Management Fieldbook.* London: Financial Times Prentice Hall.

Cabrera, E. F., & Cabrera, A. (2005). Fostering knowledge sharing through people management practices. *The International Journal of Human Resource Management* , 16(5) 720-735.

Carter, C., & Scarbrough, H. (2001). Towards a second generation of KM? The people management challenge. *Education & Training* , 43(4) 215−224.

Cavaye, A. L. (1996). Case study research: a multi-faceted research approach for IS. *Information systems journal* , 6 (3) 227-242.

Cavaye, A. L. (2008). Case study research: a multi-faceted research approach for IS. *Information Systems Journal* , (6) 227-242.

Chorn, N. H. (1987). The relationship between business-level strategy organizational culture. *Unpublished doctoral dissertation: University of the Witwatersrand* . Johannesburg , South Africa.

Cohen, D., & Prusak, L. (2001). In good company: How social capital makes organisations work. *Boston, Harvard Business School Pres* .

Collins, C. J., & Smith, K. G. (2006). Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. *Academy of Management Journal* , 49(3) 544−560.

Conner, K., & Prahalad, C. K. (1996). A resource-based theory of the firm: knowledge versus opportunism. *Organization Science* , 7 (5) 477-501.

Cummings, J. N. (2004). Work groups, structural diversity, and knowledge sharing in a global organisation. *Management Science* , 50(3), 352-364.

Damodaran, L., & Olphert, W. (2000). Barriers and facilitators to the use of knowledge management systems. *Behaviour & Information Technology* , 19 (6) 405-413.

Darke, P., Shanks, G., & Broadbent, M. (2002). Successfully completing case study research: combining rigour, relevance and pragmatism. *Information Systems Journal* , (8) 273-289.

Darke, P., Shanks, G., & Broadbent, M. (2002). Successfully completing case study research: combining rigour, relevance and pragmatism. *Information systems journal* , 8 (4) 273-289.

Davenport, T. H., & Prusak, L. (1998). Working knowledge : How organisations manage what they know. *Boston , MA: Harvard Business School Pres.*

Dixon, N. M. (Boston MA). *Common Knowledge: How Companies Thrive by Transferring What They Know.* 2000: Harvard Business School Press.

Doney, P. M., & Cannon, J. P. (1997). An Examination of the Nature of Trust in Buyer-Seller Relationships. *Journal of Marketing* , 61,(1) 35-51.

Duffy, J. (2000). The knowledge management technology infrastructure. *Information Management Journal* , 34 (1) 62-64.

Foss, N. J., & Pederson, T. (2002). Transferring knowledge in MNC: The role of sources of subsidiary knowledge and organisational context. *Journal of International Management* , 8(1),49-67.

Garbarino, E., & Lee, O. (2003). Dynamic Pricing in Internet Retail: Effects on Consumer Trust. *Psychology and Marketing* , 20 (6) 495-513.

Grant, R. M. (1996). Towards a knowledge-based theory of the firm. *Strategic Management Journal* , 17, 109-122.

Greengard, S. (1998). Storing, shaping and transfer collective wisdom. *Workforce* , 77(10) 82-88.

Gupta, A. K., & Govindarajan, V. (2000). Knowledge management's social dimension: Lessons from Nucor Steel. *Sloan Management Review* , 42(1) 71−80.

Hair, J. E., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis (Sixth Edition).* New Jersey: Pearson Prentice Hall.

Hansen, M. T. (2002). Knowledge network: Explaining effective knowledge sharing in multiunit companies. *Organization Science* , 13(3) 232−248.

Hinds, P., Patterson, M., & Pfeffer, J. (2001). Bothered by abstraction: The effect of expertise on knowledge transfer and subsequent novice performance. *Journal of Applied Psychology* , (86) 1232-1243.

Ives, W., Torrey, B., & Gordon, C. (2003). Knowledge sharing is a human behavior. In C. Morey, M. Maybury, & B. Thuraisingham, *Knowledge Management: Classic and Contemporary works* (pp. 99-129). Cambridge MA: MIT Press.

Jackson, S. E., Chuang, C. H., Harden, E. E., Jiang, Y., & Joseph, J. M. (2006). Toward developing human resource management systems for knowledge

intensive teamwork. *Research in personnel and human resources management* , 25, 27−70.

Kennedy, M. S., Ferrell, L. K., & LeClairc, D. T. (2001). Consumers' Trust of Salesperson and Manufacturer: An Empirical Study. *Journal of Business Research* , 51 (1) 73-86.

Klein, J. H. (2008). Some directions for research in knowledge. *Knowledge Management Research & Practice* , (6) 41-46.

Klein, J. H., Connell, N. A., & Jasimuddin, S. (2008). Who needs memory? The case for the Markovian organisation. *Knowledge Management Research & Practice* , 5 110–116.

Klein, K. J., & Kozlowski, S. W. (2000). Multilevel theory, research, and methods in organizations: Foundation, extensions, and new direction. *San Francisco: Jossey-Bass* .

Knapp, E. M. (1998). Knowledge Management. *Business and Economic Review* , 3-6.

Lewis, K. (1999). The impact of interpersonal relationships and knowledge exchange on group performance: A field study of consulting project teams. *Unpublished doctoral dissertation* . University of Maryland College Park.

Lin, H. -F. (2007d). Knowledge sharing and firm innovation capability: An empirical study. *International Journal of Manpower* , 28(3/4) 315−332.

Lok, P., Hung, R., Walsh, P., & Crawford, J. (2005). The extent to which organisational variables drive the success of process improvement programs. *Journal of Management Studies* , 42 (7) 1357-1381.

Lucas L, M. (2006). Things are not always what they seem: How reputations, culture, and incentives influence knowledge transfer. *The Learning Organization* , 13 (1), 7-24.

Luhmann, N. (1979). *Trust and Power.* New York: John Wiley and Sons.

Lyn, C. -P. (2007). To share or not to share: Modeling knowledge sharing using exchange ideology as a moderator. *Personnel Review* , 36(3) 457−475.

Matusik, S. F., & Hill, C. W. (1998). The utilization of contingent work, knowledge creation and competitive advanatge. *The academy of management review* , 23 (4) 680-697.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review* , 20(3) 709-34.

Mayer, R. C., Perrone, V., & Zaheer, A. (2003). Trust as an organizing principle. *Organization Science* , 14 (1) 91-103.

McDaniel, C., & Gates, R. (2006). *Marketing Research Essentials (Fifth Edition).* New Jersey: John Wiley & Sons Inc.

McDermott, R. M. (1999). How information technology inspired but cannot deliver knowledge management. *California Management Review* , 41,103-117.

McEvily, B., Perrone, V., & Zaheer, A. (2003). Trust as an organising principle. *Organization Science* , 14 (1) 91-103.

McNeish, J., & Singh Mann, I. J. (2010). Knowledge sharing in organizations. *The IUP Journal of Knowledge Management* , VIII 1 & 2.

Mesmer-Magnus, J. R., & DeChurch, L. A. (2009). Information sharing and team performance: A meta-analysis. *Journal of Applied Psychology* , 94 535−546.

Miller, V. D. (1991). Information seeking during organisational entry: Influences, tactics, and a model of the process. *Academy of Management Review* , 16, 92-120.

Mouton, J. (1996). *Understanding social research.* Pretoria: Van Schaik.

Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital and the organisational advantage. *Academy of Management Review* , 23 (2), 242-266.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science* , 5(1) 14−37.

Nonaka, I. (1990). Redundant, overlapping organisation: A Japanese approach to managing the innovation process. *California Management Review* , 32 (3) 27-38.

Nonaka, I., & Takeuchi, H. (1995). *The Knowledge Creating Company.* New York: Oxford University press.

O'Dell, C., & Grayson, C. J. (1998). If only we knew what we know: identification and transfer of internal best practices. *California Management Review* , 40 (3) 154-73.

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O'Reilly, C. A., & Chatman, J. A. (1996). Culture as social control: Corporations, cults and commitments. *Research in Organisational behavior* , 18 , 157-200.

Parasuraman, A., Zeithaml, V., & Berry, L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retail Marketing* , 64 (1) 12-40.

Polanyi, M. (1966). *The tacit dimension.* London: Routledge Kegan Paul.

Reagans, R., & McEvily, B. (2001). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly* , 48(2) 240−267.

Renzl, B. (2008). Trust in management and knowledge sharing: The mediating effects of fear and knowledge documentation . *Omega* , 36(2), 206−220.

Rhodes, J., Hung, R., Lok, P., Wu, C. M., & Lien, Y. H. (2008). Factors influencing organizational knowledge transfer: implication for corporate performance. *Journal of Knowledge Management. Kempston* , 12, (3), 84.

Sabherwa, R., & King, W. (1991). Towards a theory of strategic Use of information resources. *information & Management* , 20 (3) 191-212.

Schepers, P., & van den Berg, P. T. (2007). Social factors of work-environment creativity. *Journal of Business and Psychology* , 21 (3), 407-428.

Senge, P. (1990). The Fifth Discipline: The Art and Purpose of the Learning Organization. *Doubleday/Currency, New York, NY* .

Shalley, C. E., & Gibson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hibder creativity. *Leadership Quarterly* , 15, 33-53.

Sher, J., & Lee, C. (2004). Information technology as a facilitator for enhancing dynamic capabilities through knowledge management. *Information & Management* , 41 933-45.

Spender, J. (1996). Organizational knowledge, learning and memory: three concepts in search of a theory. *Journal of Organizational Change Management* , 9, 163-79.

Srivatsava, A. (2001). Antecedents and effects of knowledge sharing in teams:A field study. *Ph.D. thesis, University of Maryland* .

Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal* , 17, 27-43.

Szulanski, G., Cappetta, R., & Jensen, R. J. (2004). When and how trustworthiness matters: Knowledge transfer and the moderating effect of causal ambiguity. *Organization Science* , 15, 600−613.

Tapscott, D., & Ticoll, D. (2003). *The Naked Corporation, How the Age of Transparency Will Revolutionize Business,.* Toronto: Viking Canada.

Tippins, M., & Sohi, R. S. (2003). IT competency and firm performance: is organizational learning a missing link? *Strategy Management Journal* , 24 745-61.

Tobin, D. R. (1998). Networking your knowledge. *Management Review* , 46-48.

Tsoukas, H., & Vladimirou, E. F. (2001). What is organizational knowledge? *Journal of Management Studies* , 38 973−993.

Turner, K., & Makhija, M. (2006). The role of organizational controls in managing knowledge. *Academy of Management Review* , 31 (1) 197-217.

Voelpel, S. C., Dous, M., & Davenport, T. H. (2005). Five steps to creating a global knowledge-sharing system: Siemens' ShareNet. *Academy of Management Executive* , 19(2) 9−23.

Von Krough, G., Ichijo, K., & Nonaka, I. (2000). Enabling Knowledge Creation. *Oxford University Press Oxford* .

Walsh, J. P., & Ungston, G. R. (1991). Organizational memory. *Academy of Management Review* , 16 57–91.

Wang, C. L., & Ahmed, P. K. (2003). Organisational Learning: A critical review. *The Learning Organisation* , 10 (1), 8-17.

Wang, S., & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review* , 20, 115–131.

Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly* , 29(1) 35-57.

Willem, A., & Scarbrough, H. (2006). Social capital and political bias in knowledge sharing: An exploratory study. Human Relations. *ABI Inform Global* , 59 (10),1343-1370.

Wong, K. Y., & Aapinall, E. (2003). Is knowledge management equivalent to information technology? *Proceedings of the 4th European Conference on Knowledge Management* (pp. 989-997). Oxford: Oxford university.

Zand, D. E. (1972). Trust and Managerial Problem Solving. *Administrative Science Quarterly* , 17(2) 229-239.

Zhang, Y. (2000). Using the internet for survey research: A case study. *Journal of the American Society for Information Science* , 51 (1) 57 – 68.

Zikmund, W. G. (2003). Business research methods. *Ohio: South-Western* .

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APPENDIX A: QUESTIONNAIRE

1. Introduction
This survey aims to collect data about a number of different factors and the impact they have on knowledge sharing.
Please answer as accurately as possible and follow the instructions in each section. Your participation in this research is voluntary and you can withdraw at any time. By completing the survey, you indicate that you voluntarily participate in this research.
All data will be kept confidential and you will have access to all the results of the study by contacting me. My details are provided below.
Your participation in this research is greatly appreciated.
Researcher name: Neil French
Email: neil.french@za.sabmiller.com
Phone: 0829241832
Part 1
1. What is your gender?
Male
Female
2. What is your race?
Asian
Black
Coloured
Indian

White
3. What is your age?
4. What is your level of education?
Grade 11 or lower
Grade 12/Matric
National diploma/Certificate
Undergraduate degree
Post graduate degree
5. What is your job grade?
Grade C-F
Grade 0E
Grade PE
Grade FA+
6. What is your tenure in the company?
<3 months
3-6 months
7-11 months
12-24 months
>24 months
7. What department do you currently work in?

Sales
Operations
Systems
Risk
Fleet
Finance
Credit
Human Resources
Other
2. Part 2 Knowledge Sharing Evaluation
1. Information Technology
Our company is good at using information technology(IT) to improve performance Information Technology
Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
Our company is good at using information technology(IT) to improve performance
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
IT efficiently integrates the key capabilities of our company IT efficiently integrates the key capabilities of our company
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
IT in this company has provided support and improvement to employees' skill
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
Managers are good at using IT to communicate with employees
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree

2. Trust Culture
Employees' contribution and effort are appreciated by the company
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
Senior managers support employees suggested ideas when they differ from their own
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The company encourages employees' learning and tolerates employees' mistakes
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The manager of my department trusts his/her employees' working capability
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The atmosphere of the company helps employees trust others
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
3. Learning Strategy
Employees help each other learn
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The company encourages employee discussion and team learning
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The company offers a learning environment which facilitates innovation
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
4. Flexible Structure and Design
The company has many cross-functional teams

Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The organisational structure is fairly flat
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The organisational structure facilities effective knowledge sharing
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
5. Knowledge Sharing
The company saves and renews important information into a system for easy browsing
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
Knowledge is categorised in the database for use by all company employees
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The company saves important information though words and pictures in the database
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
Employees use e-mail or the internal network to share their knowledge with others
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
6. Personalisation of Knowledge Sharing
Employees are willing to share their experience and knowledge
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The company effectively shares employee experiences with other employees
Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
The company effectively shares knowledge with employees through training courses, presentations and internal communication

Strongly Disagree Somewhat Disagree Neutral / No Opinion Somewhat Agree Strongly Agree
3. Thank You
Thank You for taking the time to complete this survey. Your input is greatly appreciated. Your responses will be kept confidential, if you would like to get hold of me please contact me as per the details below.
Regards
Neil
829241832
neil.french@za.sabmiller.com

APPENDIX B: QUESTIONNAIRE PRE TESTING FEEDBACK

General feedback received:

Can you choose a lighter theme - the current one is a bit dark

Are you going to have an email going out to all respondents with a breakdown of intentions etc.? I think there it would be best to put your personal details rather than on the actual survey (although keep the intro)

Remove the numbering of all questions (also there was a slight disconnect with Trust Culture and its questions with numbering)

Ask questions - don't just state them i.e. what is your gender?

Same thoughts for the second section - ask the respondent "how they feel in regard to..."

There's a difference between no opinion/neutral - rather choose neutral

I'd still prefer an "extent" scale - to what extent do you agree with the following then use the scale: Not at all, to a small extent, to a moderate extent, to a large extent, to a very large extent

Tweak the education scale to: Grade 11 or lower, Grade 12 / Matric, National diploma / Certificate, Undergraduate degree, Post graduate degree

Your tenure options are not mutually exclusive - what if the respondent was there for 6 months?

Have some text to thank the respondent

What is your gender?

		Frequency	Percent	Cumulative Percent
Valid	Male	123	58.9	58.9
	Female	86	41.1	100.0
	Total	209	100.0	

What is your race?

		Frequency	Percent	Cumulative Percent
Valid	Asian	8	3.8	3.8
	Black	88	42.1	45.9
	Coloured	9	4.3	50.2
	Indian	7	3.3	53.6
	White	97	46.4	100.0
	Total	209	100.0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
What is your age?	202	21	62	32.62	8.916
Valid N (listwise)	202				

(R) What is your age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21 - 25	42	20.1	20.8	20.8
	26 - 30	71	34.0	35.1	55.9
	31 - 35	34	16.3	16.8	72.8
	26 - 45	29	13.9	14.4	87.1
	46+	26	12.4	12.9	100.0
	Total	202	96.7	100.0	
Missing	System	7	3.3		
Total		209	100.0		

What is your level of education?

		Frequency	Percent	Cumulative Percent
Valid	Grade 11 or lower	7	3.3	3.3
	Grade 12/Matric	37	17.7	21.1
	National diploma/Certificate	57	27.3	48.3
	Undergraduate degree	48	23.0	71.3
	Post graduate degree	60	28.7	100.0
	Total	209	100.0	

What is your job grade?

		Frequency	Percent	Cumulative Percent
Valid	Grade C-F	100	47.8	47.8
	Grade 0E	38	18.2	66.0
	Grade PE	46	22.0	88.0
	Grade FA+	25	12.0	100.0
	Total	209	100.0	

What is your tenure in the company?

		Frequency	Percent	Cumulative Percent
Valid	<3 months	6	2.9	2.9
	3-6 months	15	7.2	10.0
	7-11 months	13	6.2	16.3
	12-24 months	34	16.3	32.5
	>24 months	141	67.5	100.0
	Total	209	100.0	

What department do you currently work in?

		Frequency	Percent	Cumulative Percent
Valid	Sales	75	35.9	35.9
	Operations	77	36.8	72.7
	Systems	4	1.9	74.6

	Risk	3	1.4	76.1
	Fleet	6	2.9	78.9
	Finance	10	4.8	83.7
	Credit	5	2.4	86.1
	Human Resources	6	2.9	89.0
	Other	23	11.0	100.0
	Total	209	100.0	

Information Technology

Descriptive Statistics			
	N	Mean	Std. Deviation
Our company is good at using information technology(IT) to improve performance	180	4.26	.994
IT efficiently integrates the key capabilities of our company	180	4.19	.986
IT in this company has provided support and improvement to employees' skill	180	4.09	1.045
Managers are good at using IT to communicate with employees	179	4.09	.946
Valid N (listwise)	179		

	Strongly Disagree		Somewhat Disagree		Neutral / No Opinion	
	Count	Row N %	Count	Row N %	Count	Row N %
Our company is good at using information technology(IT) to improve performance	7	3.9%	7	3.9%	8	4.4%
IT efficiently integrates the key capabilities of our company	5	2.8%	11	6.1%	10	5.6%
IT in this company has provided support and improvement to employees' skill	6	3.3%	15	8.3%	9	5.0%
Managers are good at using IT to communicate with employees	3	1.7%	14	7.8%	12	6.7%

Trust Culture

Descriptive Statistics			
	N	Mean	Std. Deviation
Employees' contribution and effort are appreciated by the company	180	3.94	.946
Senior managers support employees suggested ideas when they differ from their own	180	3.66	.987
The company encourages employees' learning and tolerates employees' mistakes	180	3.67	1.083
The manager of my department trusts his/her employees' working capability	180	4.23	.958

	Count	Row N %		
The atmosphere of the company helps employees trust others	180	3.71	1.076	
Valid N (listwise)	180			

	Strongly Disagree		Somewhat Disagree		Neutral / No Opinion		Somewhat Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Employees' contribution and effort are appreciated by the company	4	2.2%	16	8.9%	14	7.8%	99	55.0%	47	26.1%
Senior managers support employees suggested ideas when they differ from their own	4	2.2%	24	13.3%	32	17.8%	89	49.4%	31	17.2%
The company encourages employees' learning and tolerates employees' mistakes	8	4.4%	22	12.2%	31	17.2%	80	44.4%	39	21.7%
The manager of my department trusts his/her employees' working capability	3	1.7%	14	7.8%	6	3.3%	72	40.0%	85	47.2%

Learning Strategy

Descriptive Statistics			
	N	Mean	Std. Deviation
Employees help each other learn	180	4.19	.777
The company encourages employee discussion and team learning	179	4.28	.828
The company offers a learning environment which facilitates innovation	180	4.10	.928
Valid N (listwise)	179		

	Strongly Disagree		Somewhat Disagree		Neutral / No Opinion		Somewhat Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Employees help each other learn	1	.6%	6	3.3%	16	8.9%	91	50.6%	66	36.7%
The company encourages employee discussion and team learning	2	1.1%	6	3.4%	13	7.3%	77	43.0%	81	45.3%
The company offers a learning environment which facilitates innovation	4	2.2%	10	5.6%	15	8.3%	86	47.8%	65	36.1%

Flexible Structure and Design

Descriptive Statistics			
	N	Mean	Std. Deviation
The company has many cross-functional teams	179	4.11	.977
The organisational structure is fairly flat	179	3.30	1.130
The organisational structure facilities effective knowledge sharing	179	3.84	.931
Valid N (listwise)	179		

	Strongly Disagree		Somewhat Disagree		Neutral / No Opinion		Somewhat Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
The company has many cross-functional teams	3	1.7%	12	6.7%	22	12.3%	67	37.4%	75	41.9%
The organisational structure is fairly flat	9	5.0%	40	22.3%	47	26.3%	55	30.7%	28	15.6%
The organisational structure facilities effective knowledge sharing	2	1.1%	19	10.6%	25	14.0%	93	52.0%	40	22.3%

Knowledge Sharing

Descriptive Statistics			
	N	Mean	Std. Deviation
The company saves and renews important information into a system for easy browsing	179	4.11	.935
Knowledge is categorised in the database for use by all company employees	179	3.97	1.027
The company saves important information though words and pictures in the database	179	3.91	.976
Employees use e-mail or the internal network to share their knowledge with others	179	4.27	.833
Valid N (listwise)	179		

	Strongly Disagree		Somewhat Disagree		Neutral / No Opinion		Somewhat Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
The company saves and renews important information into a system for easy browsing	1	.6%	16	8.9%	15	8.4%	77	43.0%	70	39.1%
Knowledge is categorised in the database for use by all company employees	4	2.2%	17	9.5%	22	12.3%	74	41.3%	62	34.6%

The company saves important information though words and pictures in the database	1	.6%	18	10.1%	34	19.0%	70	39.1%	56	31.3%
Employees use e-mail or the internal network to share their knowledge with others	2	1.1%	6	3.4%	14	7.8%	76	42.5%	81	45.3%

Personalisation of Knowledge Sharing

Descriptive Statistics			
	N	Mean	Std. Deviation
Employees are willing to share their experience and knowledge	179	4.00	.977
The company effectively shares employee experiences with other employees	179	3.80	1.034
The company effectively shares knowledge with employees through training courses, presentations and internal communication	179	4.32	.909
Valid N (listwise)	179		

	Strongly Disagree		Somewhat Disagree		Neutral / No Opinion		Somewhat Agree		Strongly Agree	
	Count	Row	Count	Row N	Count	Row	Count	Row N	Count	Row N

		N %		%		N %		%		%
Employees are willing to share their experience and knowledge	1	.6%	23	12.8%	10	5.6%	86	48.0%	59	33.0%
The company effectively shares employee experiences with other employees	2	1.1%	29	16.2%	17	9.5%	85	47.5%	46	25.7%
The company effectively shares knowledge with employees through training courses, presentations and internal communication	2	1.1%	10	5.6%	12	6.7%	59	33.0%	96	53.6%

Descriptives #2

Statistics				
	N			
	Valid	Missing	Mean	Std. Deviation
Information Technology	180	29	4.1611	.81904
Trust Culture	180	29	3.8411	.79431
Learning Strategy	180	29	4.1926	.72975
Flexible Structure and Design	179	30	3.7486	.80850
Knowledge Sharing	179	30	4.0642	.77128
Personalisation of Knowledge Sharing	179	30	4.0428	.82185

Overall: Knowledge Sharing	179	30	4.0551	.70690

Knowledge Sharing Factor

Correlations

Correlations		Knowledge Sharing	Personalisation of Knowledge Sharing
Knowledge Sharing	Pearson Correlation	1	.584[**]
	Sig. (2-tailed)		.000
	N	179	179
Personalisation of Knowledge Sharing	Pearson Correlation	.584[**]	1
	Sig. (2-tailed)	.000	
	N	179	179
**. Correlation is significant at the 0.01 level (2-tailed).			

APPENDIX D: RELIABILITY

Reliability Statistics

Cronbach's Alpha	N of Items
.860	7

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The company saves and renews important information into a system for easy browsing	.657	.837
Knowledge is categorised in the database for use by all company employees	.662	.836
The company saves important information though words and pictures in the database	.692	.832
Employees use e-mail or the internal network to share their knowledge with others	.552	.851
Employees are willing to share their experience and knowledge	.582	.847
The company effectively shares employee experiences with other employees	.652	.838
The company effectively shares knowledge with employees through training courses, presentations and internal communication	.602	.844

Reliability Statistics

Cronbach's Alpha	N of Items
.844	4

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Our company is good at using information technology(IT) to improve performance	.667	.807
IT efficiently integrates the key capabilities of our company	.759	.766
IT in this company has provided support and improvement to employees' skill	.757	.766
Managers are good at using IT to communicate with employees	.541	.857

Trust Culture

Reliability Statistics

Cronbach's Alpha	N of Items
.844	5

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Employees' contribution and effort are appreciated by the company	.649	.814
Senior managers support employees suggested ideas when they differ from their own	.694	.801
The company encourages employees' learning and tolerates employees' mistakes	.629	.820
The manager of my department trusts his/her employees' working capability	.645	.815
The atmosphere of the company helps employees trust others	.645	.815

Learning Strategy

Reliability Statistics

Cronbach's Alpha	N of Items
.826	3

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Employees help each other learn	.694	.754
The company encourages employee discussion and team learning	.739	.703
The company offers a learning environment which facilitates innovation	.629	.824

Flexible Structure and Design

Reliability Statistics

Cronbach's Alpha	N of Items
.710	3

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted

The company has many cross-functional teams	.521	.629
The organisational structure is fairly flat	.485	.689
The organisational structure facilities effective knowledge sharing	.595	.549

Knowledge Sharing

Reliability Statistics

Cronbach's Alpha	N of Items
.832	4

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The company saves and renews important information into a system for easy browsing	.711	.766
Knowledge is categorised in the database for use by all company employees	.736	.753
The company saves important information though words and pictures in the database	.705	.768
Employees use e-mail or the internal network to share their knowledge with others	.504	.851

Personalisation of Knowledge Sharing

Reliability Statistics

Cronbach's Alpha	N of Items
.797	3

Item-Total Statistics

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Employees are willing to share their experience and knowledge	.636	.727
The company effectively shares employee experiences with other employees	.656	.708
The company effectively shares knowledge with employees through training courses, presentations and internal communication	.634	.732

APPENDIX E: STEPWISE LINEAR REGRESSION

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Learning Strategy	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Information Technology	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	Flexible Structure and Design	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: Overall: Knowledge Sharing

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.652[a]	.425	.421	.53723
2	.772[b]	.596	.591	.45158
3	.791[c]	.626	.619	.43583

a. Predictors: (Constant), Learning Strategy

b. Predictors: (Constant), Learning Strategy, Information Technology

c. Predictors: (Constant), Learning Strategy, Information Technology, Flexible Structure and Design

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.504	1	37.504	129.948	.000[a]
	Residual	50.796	176	.289		
	Total	88.300	177			
2	Regression	52.614	2	26.307	129.006	.000[b]
	Residual	35.686	175	.204		
	Total	88.300	177			
3	Regression	55.250	3	18.417	96.957	.000[c]
	Residual	33.050	174	.190		
	Total	88.300	177			

a. Predictors: (Constant), Learning Strategy

b. Predictors: (Constant), Learning Strategy, Information Technology

c. Predictors: (Constant), Learning Strategy, Information Technology, Flexible Structure and Design

d. Dependent Variable: Overall: Knowledge Sharing

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.418	.234		6.050	.000		
	Learning Strategy	.628	.055	.652	11.399	.000	1.000	1.000
2	(Constant)	.536	.222		2.414	.017		
	Learning Strategy	.454	.051	.471	8.992	.000	.840	1.190
	Information Technology	.387	.045	.451	8.608	.000	.840	1.190
3	(Constant)	.489	.215		2.276	.024		
	Learning Strategy	.346	.057	.359	6.080	.000	.619	1.617
	Information Technology	.325	.047	.379	6.997	.000	.733	1.365
	Flexible Structure and Design	.203	.055	.233	3.725	.000	.550	1.819

a. Dependent Variable: Overall: Knowledge Sharing

Collinearity Diagnostics[a]							
				Variance Proportions			
Model	Dimension	Eigenvalue	Condition Index	(Constant)	Learning Strategy	Information Technology	Flexible Structure and Design
1	1	1.985	1.000	.01	.01		
	2	.015	11.556	.99	.99		
2	1	2.964	1.000	.00	.00	.00	
	2	.021	11.816	.11	.28	.98	
	3	.015	14.163	.88	.72	.02	
3	1	3.944	1.000	.00	.00	.00	.00
	2	.023	13.094	.25	.04	.23	.54
	3	.021	13.685	.29	.15	.68	.05
	4	.012	18.212	.45	.81	.09	.41

a. Dependent Variable: Overall: Knowledge Sharing

APPENDIX F: GRAPHS

What is your gender?

Female 41%

Male 59%

(R) What is your age?

Age	Percentage
21 - 25	21%
26 - 30	35%
31 - 35	17%
26 - 45	14%
46+	13%

xxx

What is your race?

- Asian 4%
- Black 42%
- Coloured 4%
- Indian 3%
- White 47%

What is your level of education?

Level	Percentage
Grade 11 or Lower	3%
Grade 12 / Matric	18%
National Diploma / Certificate	27%
Undergraduate Degree	23%
Post graduate Degree	29%

What is your job grade?

Grade	Percentage
Grade C-F	48%
Grade 0E	18%
Grade PE	22%
Grade FA+	12%

What is your tenure in the company?

Tenure	Percentage
< 3 months	3%
3-6 months	7%
7-11 months	6%
12-24 months	16%
> 24 months	67%

What department do you currently work in?

- Sales 36%
- Operations 37%
- Other 11%
- Human Resources 3%
- Credit 2%
- Finance 5%
- Fleet 3%
- Risk 1%
- Systems 2%

Dimensions

Dimension	Score
Information Technology	4.16
Trust Culture	3.84
Learning Strategy	4.19
Flexible Structure and Design	3.75
Knowledge Sharing	4.06
Personalisation of Knowledge…	4.04
Overall: Knowledge Sharing	4.06