Optimising tacit knowledge sharing among sales force members in the South African pharmaceutical industry

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DECLARATION

I, Erich Bock, hereby declare that this thesis which is hereby submitted for the qualification PhD in Business Administration at the University of the Free State is my own independent work and has not been handed in before for a qualification at/in another University/Faculty. Where assistance was sought and granted, it has been acknowledged. I further concede copyright of the thesis to the University of the Free State.

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E. Bock Date

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SUMMARY

The overriding aim of the study was to develop a management model to optimise tacit knowledge sharing as a possible avenue for increasing employee productivity in the South African pharmaceutical industry. Effective use of tacit knowledge sharing saves companies time when it comes to training employees, thereby boosting employee productivity, their morale and reducing the stress of their day–to-day operations. Through tacit knowledge sharing it is possible for each sales force member to be coached, guided and mentored in a way and at a pace that suit them and the company's goals and objectives, recognising that each member is different, with different abilities, interests and needs.

As tacit knowledge sharing is already optimising productivity for knowledge workers globally, South African pharmaceutical companies are challenged to find ways of linking tacit knowledge sharing to their goals, objectives, and business strategies and making tacit knowledge sharing part of their company culture. These processes need to be seen as a normal way of operating in the company as every sales force member who needs to produce and achieve objectives fast and efficiently can benefit from it. The purpose of this research, therefore, was to conduct an analysis of the management of tacit knowledge sharing in the pharmaceutical industry with a view to constructing a plan for tacit knowledge sharing in the industry. A profound literature study for the theoretical exposition and the grounding perspective of the issues at stake was undertaken. The empirical investigation for the purpose of this study followed a mixed-method approach which is mainly a pragmatic consideration as the use of multiple methodologies enhances the value of the investigation as data emerge from different angles and contribute to the validity of the study. It is clear from the study that there are many contributing factors to optimising tacit knowledge sharing. Tacit knowledge sharing is used relatively scarcely in most

pharmaceutical companies as there are barriers such as the resistance to change and the unwillingness of more experienced employees to share their knowledge. It is envisaged that the outcomes of this study will interest both academic scholars and business professionals, as the study contributes to the body of knowledge on tacit knowledge sharing. Because the foundations of this study were rooted in the theory of tacit knowledge sharing and because of its transformative potential for sales practices, this study finally engaged in delivering an original model for optimising a neglected practice in business industries. The final model brought a structural formation to the study and forms a solid base for publications, as well as for development initiatives for sales force members in the business arena in South Africa. Though this study targeted the pharmaceutical industry, the model that originated from it, can be adapted to fit the needs of other companies in view of securing South Africa's position in the global economy.

SAMEVATTING

Die oorkoepelende doel van die studie was om n bestuursmodel saam te stel om die deel of oordrag van onuitgesproke of versweë kennis te bevorder onder verkoopslui in die farmaseutiese bedryf in Suid-Afrika. Die effektiewe deel van onuitgesproke kennis bespaar maatskappye tyd wanneer dit kom by die opleiding van werknemers en daardeur word die werkers se produktiwiteit, asook hul selfvertroue, bevorder en word alledaagse werkstres verminder. Deur versweë kennis te deel, word dit vir elke verkoopsverteenwoordiger moontlik om ingeoefen, gelei en gementor te word op 'n wyse en teen 'n pas wat vir hom/haar gemaklik is en wat die maatskappy se doelwitte verreken, met inagneming van verskille rakende hul vermoëns, belangstellings en behoeftes. Aangesien die deel/oordrag van onuitgesproke kennis reeds 'n rol speel in die bevordering van die produktiwiteit van kenniswerkers op 'n globale vlak, staan Suid-Afrikaanse maatskappye voor die uitdaging om maniere te vind wat die deel van onuitgesproke kennis met hul doelwitte en sakestrategieë verbind en sodoende

deel te maak van die maatskappy se korporatiewe kultuur. Hierdie proses behoort as normaal beskou te word in die maatskappy se aktiwiteite, aangesien elke verkoopsverteenwoordiger wat doelwitte moet bereik en presteer, voordeel hieruit kan trek. Die doel van die navorsing was dus om die bestuur van die deel/oordrag van onuitgesproke kennis in die farmaseutiese industrie te analiseer met die oog daarop om ‘n plan daar te stel vir die effektiewe deel van onuitgesproke kennis in die industrie. ‘n Volledige literatuur studie is onderneem met die doel om die teoretiese fondasie daar te stel. ‘n Gemengde metode benadering is gevolg ten opsigte van die empiriese ondersoek wat hoofsaaklik pragmaties van benadering was. Die metode het ook die waarde van die ondersoek verhoog aangesien die data van verskillende hoeke blootgestel word.

Die studie het bevind dat daar baie faktore is wat bydra tot die optimale deel van onuitgesproke kennis. In die meeste farmaseutiese maatskappye word die deel van onuitgesproke kennis (die versweë kennis) selde benut, en daar is ook hindernisse in die weg van die optimale deel van onuitgesproke kennis, soos die gebrek aan bereidwilligheid van meer ervare werknemers om kennis te deel, asook die weerstand teen verandering in spanne. Dit word voorsien dat die uitkomste van hierdie studie die belangstelling van beide akademici en professionele sakelui sal prikkel, aangesien dit bydra tot die kennis inhoud rakende die deel/oordrag van onuitgesproke kennis. Omdat die grondslag van die studie gewortel is in die teorie van die deel van onuitgesproke kennis, en as gevolg van die transformatiewe potensiaal wat dit inhou vir verkoopspraktyke, lewer die studie ‘n oorspronklike model vir die bevordering van ‘n praktyk in die sakeindustrie wat tans verwaarloos word. Die finale model verskaf ’n strukturele formaat aan die studie en vorm die basis vir publikasies; sowel as vir ontwikkelingsinisiatiewe vir die verkoopspan in die sakearena in Suid-Afrika. Alhoewel die studie op die farmaseutiese industrie gerig was, kan die model wat hieruit voortvloei, aangepas word om aan die behoeftes van ander maatskappye te voldoen wat beoog om Suid-Afrika se posisie in die globale ekonomie te versterk.

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KEY TERMS

Knowledge

Knowledge creation

Knowledge management

Explicit knowledge

Tacit knowledge

Knowledge transfer/sharing

Tacit knowledge transfer/sharing

Tacit knowledge sharing environment

Productivity

Knowledge economy

Knowledge worker

Pharmaceutical industry

Sales force

Culture

Organisational culture

GLOSSARY

Knowledge	Nonaka, Toyama and Voelpel (2006: 1189) define knowledge as human understanding of subject matter that has been acquired through proper study and experience. Sveiby (2000: 123) defines knowledge as human ability resulting from interpreted information - understanding that germinates from a combination of data, information, experience and individual interpretation.
Knowledge creation	Knowledge creation is when humans learn new facts, integrate them in some way which they think is relevant and organise the result. Knowledge creation and human learning can therefore occur through experience, by example, and by discovery. Knowledge has no value if the capacity to act on new knowledge is not created.
Knowledge management	Knowledge management is the process by which strategies are designed to identify, capture, structure, value, provide leverage and share an organisation's intellectual assets. This is done in order to enhance the organisation's performance and competitiveness.
Explicit knowledge	Explicit knowledge is that which is codified and digitised in documents, books, reports, memos and so forth. "Explicit" or codified knowledge refers to knowledge that is transmittable in formal, systematic language. It can be articulated, codified, and stored in certain media.

	It can be readily transmitted to others - the information contained in encyclopaedia is a good example.
Tacit knowledge	Tacit knowledge is referred to as the culmination of an individual's know-how, beliefs, experiences and values, gained over a lifetime of experiences, but a powerful asset. Tacit knowledge usually gets embedded in the human mind through experience and is defined as work-related, practical knowledge.
Knowledge transfer/sharing	Knowledge transfer entails the transfer of knowledge from one source to another source, and is an integral part of an organisation's life. Knowledge transfer also represents the appropriate use of the transmitted knowledge.
Tacit knowledge transfer/sharing	The transfer of tacit knowledge requires close interaction and trust among team members, as well as a shared understanding of the subject matter to be discussed. Tacit knowledge is difficult to transfer to another person.
Tacit knowledge sharing environment	This is an environment that will lend itself to the creation and sharing of tacit knowledge. It is therefore a shared workspace, or environment, for the sharing of knowledge. A tacit knowledge sharing environment is referred to by Nonaka and Konno (1998: 47) as "*ba*" (a Japanese concept meaning "place"). According to them, "*ba*" can be thought of as a shared space for emerging relationships. This space can be physical (an office, dispersed business space), virtual (e-mail, teleconference), mental (shared

	experiences, ideas, ideals) or any combination of them.
Productivity	In the simplest terms, productivity is the ratio between the quantity of goods or services produced and the quantity of resources used to produce them. Sales productivity therefore is the ratio between goods and services sold and the resources used to sell them. In a business context, productivity is the ratio of output production to input effort. If the goal is to increase productivity, this can be done by producing more output with the same level of input.
Knowledge economy	According to Bontis, Dragonetti, Jacobsen and Roos (1999: 401) knowledge economy is productivity created by creating, evaluating and trading knowledge.
Knowledge worker	A knowledge worker is anyone who works for a living at the tasks of developing or using knowledge. Knowledge workers use their intellect to convert their ideas into products, services, or processes. A knowledge worker creates knowledge and then knows how to tap and share it across the organisation.
Pharmaceutical industry	The pharmaceutical industry develops, produces and markets drugs licensed for use as medications. Pharmaceutical companies are allowed to deal in generic and/or brand medications and medical devices. They are subject to a variety of laws and regulations regarding the patenting, testing and marketing of the drugs, as well as ensuring their safety and

	efficacy.
Sales force	Pharmaceutical companies generally employ sales people (often called 'drug reps' or, an older term, 'detail reps') to market directly and personally to physicians and other healthcare providers. A pharmaceutical representative often will try to visit a given physician or hospital unit every few weeks. A sales force member is therefore in the business of advertising or otherwise promoting the sale of pharmaceuticals, drugs or medical devices.
Culture	Culture is group specific behaviour that has developed from social influences. It is therefore the behaviours and beliefs of the particular social, ethnic or age group. According to Olsaretti (2004: 173), the term culture can refer to national culture or corporate/organisational culture.
Organisational culture	A basic definition of organisational culture is the collective way in which people in an organisation do things around there. It involves a learned set of behaviours that is common knowledge to all the participants. The members of an organisation therefore know that they have to act and behave in a certain way on certain occasions.

CHAPTER 1

ORIENTATION

1.1 INTRODUCTION TO THE STUDY

Knowledge that workers bring to work on a day-to-day basis is a critical resource embedded within organisations, which means that the human capital's skills, experience and knowledge are used to get work in the workplace done efficiently and effectively (Cross, 2000: 5; Stockly, 2010: 12). Polanyi (in Bratianu & Orzea, 2010: 23) refers to these skills, experience and knowledge as *tacit knowledge*, which is regarded as a powerful asset. Tacit knowledge as an important knowledge component is the culmination of an individual's know-how, beliefs, experiences and values, gained over a lifetime of experiences. Polanyi (in Bratianu & Orzea, 2010: 23) further indicates that a person's tacit knowledge helps him or her to function more effectively and productively and as businesses live or die by employee productivity, productivity is key to organisational success and even to a country's economy.

Miller, Fern and Cardinal (2007: 308) emphasize the ever-increasing importance of tacit knowledge and the issue of transferring this type of knowledge to new workers. Although economists suggest that the recession is over, the economic recovery will be even more painstaking due to the fact that a majority of organisations have not planned for the optimisation of tacit knowledge (Miller, *et al.* 2007: 300), especially presently where the market is faced with 77 million retiring baby boomers. More than a decade ago, Sveiby (2000) warned organisations to put systematic ways of working in place to develop the knowledge that is embedded in people. Although explicit knowledge can easily circulate within organisations, the limited access to tacit knowledge has raised

the interest of organisations to develop strategies for employees to bring their tacit knowledge into the equation.

According to Zhang, Jhi and Shi (2009: 2), knowledge sharing is an important part in knowledge management and the value of knowledge can therefore only be seen in its transfer, sharing and utilisation. Earlier Teece, Pisano and Shuen (1997: 515) also referred to the increasing advantage of companies which capitalise on the identification and sharing of tacit knowledge. Research by Szulanski (2000: 20), and more recent by Bratianu and Orzea (2010: 25) in the field of knowledge sharing and transfer indicated that the process of sharing and transferring knowledge remains a challenging task and the challenges related to the transfer of tacit knowledge, in particular, are even more daunting.

In South Africa the optimisation of tacit knowledge is a challenge to be reckoned with, because of our diversity. This means that the workforce in an average South African organisation is confronted by its cultural diversity. The history of South Africa, along with its current focus on equity, might complicate the optimisation of tacit knowledge in organisations (Finestone & Snyman, 2006: 135). In terms of the global competitiveness, South African organisations have to ensure the optimisation of their human capital, which also implies the optimisation of the employees' tacit knowledge. One of the business sectors in South Africa that is currently under severe strain to compete in the global arena is the pharmaceutical industry. It will therefore be of utmost importance to investigate the development of knowledge, and, particularly tacit knowledge, in order to shape employee productivity. The introduction to this report is schematically presented in Figure 1.1.

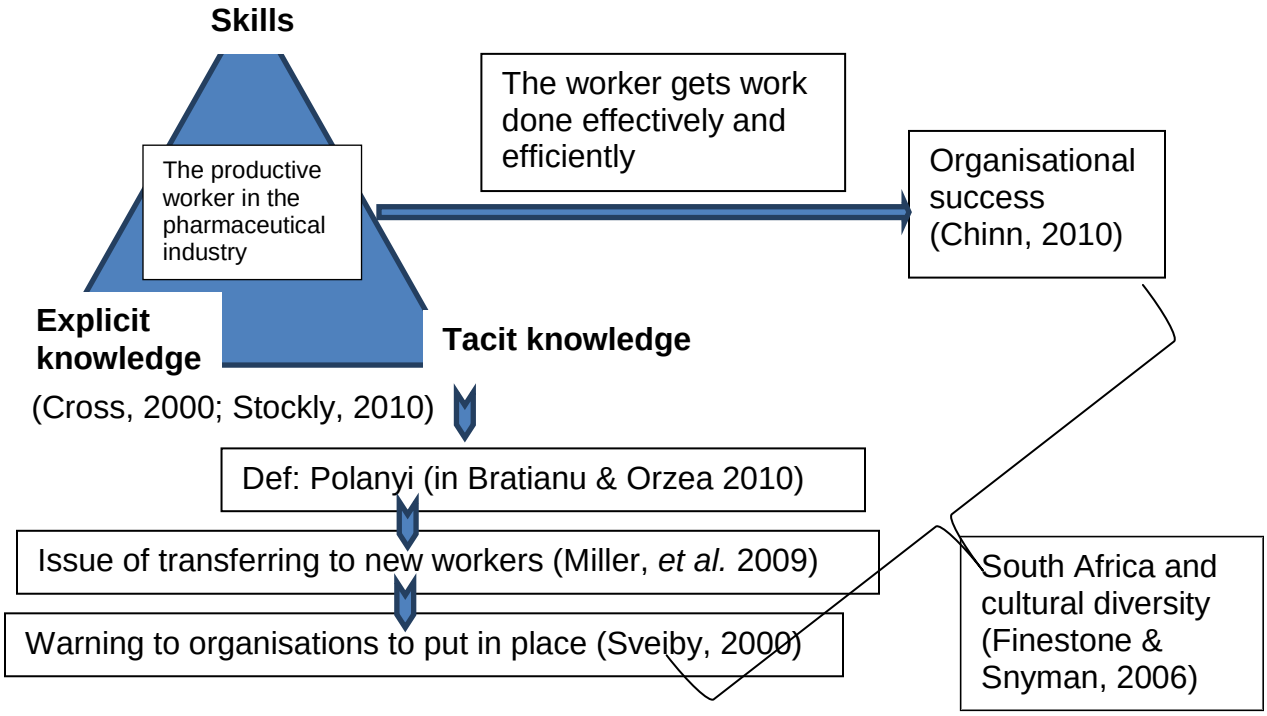


Figure 1.1: Introduction

1.2 THEORETICAL FRAMEWORK

According to Benbya and Belbaly (2005: 204), the arrival of the information-based, knowledge-intensive economy forced massive change on companies worldwide, particularly in terms of the relationship with their employees. In current-day business, industries and organisations do not only have to compete for product markets and technical expertise, but also for the hearts and minds of talented and capable people. After persuading them to join the enterprise, management has to ensure that those valuable individuals become engaged in the organisation's on-going learning processes and stay committed to the company's aspirations (Bartlett & Ghoshal, 2002: 34).

The competition in the pharmaceutical industry is intense and these companies have to manage every asset optimally, especially its sales force (Fenton & Albers, 2007: 145). With a continued increase in competition in the

pharmaceutical industry and the rapid decrease in the average length of tenure a sales representative has with one organisation, companies need to ensure that they maximise their impact on every sales call as well as capturing the knowledge of the sales force, so that the knowledge can be leveraged into a competitive advantage (Britt, 2007: 24).

There seems to be a widespread agreement that knowledge assets are difficult to replicate, which are fundamental sources of providing a competitive advantage in open economies. Fenton and Albers (2007: 144) purport that the sales force is a critical component of the overall success of any company's goals and objectives. Britt (2007: 24) argued that knowledge management, if implemented correctly, can act as a catalyst to synergise the efforts of a sales force leading to many positive outcomes, including a more effective sales force, an overall smarter organisation and employees who have a high sense of morals and a high morale, because of their involvement in the decision-making process. Fenton and Albers (2007: 143) are of the opinion that knowledge management practised by a sales force can enhance the selling capabilities of individuals, strengthen customer relationships, provide competitive intelligence, and mitigate the potential damage left behind when experienced sales representatives leave the territory.

Knowledge management in South Africa is still a very new field in general management, and according to Finestone and Snyman (2006: 136), the added dimension of cultural diversity complicates matters even further for knowledge managers in organisations. The challenge of increasing employee productivity has always been at the forefront of human resource management (Jones, 2010: 2), as the process of knowledge development is a planned, systematic and integrated approach to improving the effectiveness of the human element in knowledge management (Britt, 2007: 28). In the field of company management, and especially tacit knowledge sharing, it seems necessary to acknowledge the incorporation of different approaches to knowledge\management implementation

as very little research has been done on this subject from a South African corporate-environment perspective (Finestone & Snyman, 2006: 139).

1.3 PROBLEM STATEMENT

From the above theoretical background and the fact that professional development programs are problematic due to high staff turnover in the pharmaceutical industry and a lack of mechanisms to capture the knowledge of the experienced sales force members leaving the company (Fenton & Albers, 2007) it is clear that employees might complain about the lack of knowledge sharing in organisations, and according to Hofstede (in Mushtaq & Bokhari, 2011: 15), this may result in a managerial dilemma. Any factor which may influence the achievement of corporate goals negatively needs to be addressed urgently (Kang, Kim & Chang, 2008: 1550).

The transfer of individual tacit knowledge to organisational capacity can improve the competitiveness of an organisation (Bratianu & Orzea, 2010: 32); however, there might be a large number of barriers to knowledge sharing, especially in those knowledge-intensive organisations where knowledge is very important for individuals in order to retain their competitive advantage, so they are usually unwilling to share it with others, or 'contribute' their personal knowledge to the organisation (Zhang, *et al.* 2009). In the pharmaceutical industry, the sales force is a critical component of the overall success in achieving the company's goals and objectives (Fenton & Albers, 2007: 142), which implies that a lack of tacit knowledge sharing may negatively influence employee productivity and reduce the morale of the employers (Bratianu & Orzea, 2010: 23). This may pose challenges to management as it will be destructive to corporate sales targets.

As indicated above a problem that faces sales force members at pharmaceutical companies in SA is that tacit knowledge sharing is problematic and is also not prioritised (Britt 2007: 30). In order to be competitive in the market, it seems as if

the optimisation of tacit knowledge sharing can play a major role in the improvement of productivity and if pharmaceutical companies in South Africa want to take in a leading position in the industry, the current limited strategies for the improvement of tacit knowledge sharing need to be addressed Finestone and Snyman (2006: 139) were also intrigued by the cultural diversity in South Africa and how that might complicate the optimisation of tacit knowledge in organisations and this brings another challenge to the table of tacit knowledge sharing.

The question that has to be answered is: *How can South African pharmaceutical companies improve tacit knowledge sharing to ensure a competitive advantage?*

The above-mentioned problem has generated the following problem questions:

- What constructs underlie tacit knowledge sharing?
- How does tacit knowledge sharing influence employee productivity?
- What management actions can improve tacit knowledge sharing (or create barriers)?
- How does the cultural diversity of the South African workforce influence tacit knowledge sharing in companies, and particularly in the pharmaceutical industry?
- What needs and barriers for optimising tacit knowledge do sales force members and managers in the South African pharmaceutical industry experience?
- What are the expectations of sales force members and management in the pharmaceutical industry in terms of their contribution to optimal tacit knowledge sharing in this industry?
- What management actions can be put in place to facilitate tacit knowledge sharing in the diverse South African pharmaceutical industry?

1.4 PURPOSE OF THE RESEARCH

This study was focused on developing a management model to optimise tacit knowledge sharing as a possible avenue for increasing employee productivity in the South African pharmaceutical industry. During the course of the study the possible value of tacit knowledge sharing was critically reviewed, challenges experienced by sales force members and management in South African pharmaceutical organisation were scrutinised, the views of managers in pharmaceutical companies about its contribution to the improvement of employee productivity for sustained competiveness in the global market were scrutinised and an analysis of managing tacit knowledge sharing in the pharmaceutical industry with the plan of constructing a plan for tacit knowledge sharing was conducted.

This study also acknowledged the South African context and its cultural diversity, implying that the management of large industries has to take into account and understand its dual heritage (Lessem & Nussbaum, 1996), also when it comes to the optimisation of tacit knowledge. In order to develop a management model for the implementation of tacit knowledge sharing in the sales force of pharmaceutical companies in South Africa, the following objectives were set:

- To conceptualise tacit knowledge by identifying constructs underpinning tacit knowledge.
- To view the influence of tacit knowledge sharing on employee productivity.
- To critically explore tacit knowledge sharing within the framework of knowledge management in a company.
- To acknowledge any possible influence that cultural diversity might have on tacit knowledge sharing in the South African pharmaceutical industry.
- To identify challenges experienced by the sales force members and management in context of the South African pharmaceutical industry.
- To explore the views of sales force members and managers in the pharmaceutical industry on the optimisation of tacit knowledge sharing.

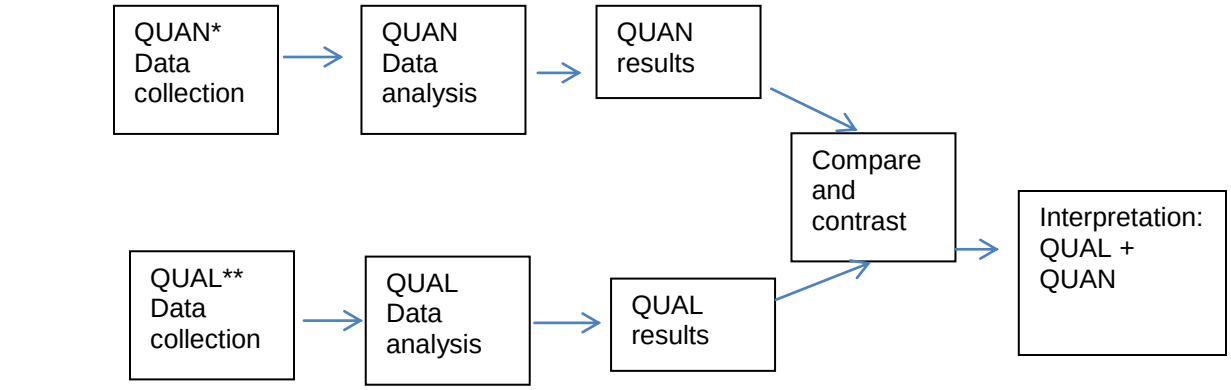
- To conduct an analysis of managing tacit knowledge sharing in the pharmaceutical industry in view of constructing a plan for tacit knowledge sharing in the industry.

1.5 RESEARCH DESIGN

The aim and objectives of this study necessitated a **mixed methods** approach, and both quantitative and qualitative methods were employed. According to Bak (2004: 24) a research design is a plan, strategy and structure of investigation so conceived as to obtain answers to research questions or problems. A mixed-method design is primarily pragmatic in nature, meaning that the research questions drive the choice of research methods. However, each of the methods (quantitative and qualitative) will adhere to its underpinning epistemological stance.

1.5.1 Selecting the method

A profound literature study for the theoretical exposition and the grounding perspective of the issues at stake was undertaken. The empirical investigation for the purpose of this study followed a mixed-method approach which is mainly a pragmatic consideration as the use of multiple methodologies enhances the value of the investigation as data emerge from different angles and contribute to the validity of the study. The most common approach to mixing methods is the triangulation design with the purpose of obtaining different but complementary data on the same topic (Creswell, 2003).



*Quantitative
**Qualitative

Figure 1.2: Triangulation Design: Convergence model (Creswell & Clark, 2007:63)

In the convergence model (Figure 1.2), the researcher collects and analyses quantitative and qualitative data separately on the same phenomenon and then the different results are converged (by comparing and contrasting results) during the interpretation (Creswell, 1999: 460). Figure 1.3 is a diagrammatic representation of the data analysis process in the triangulation design.

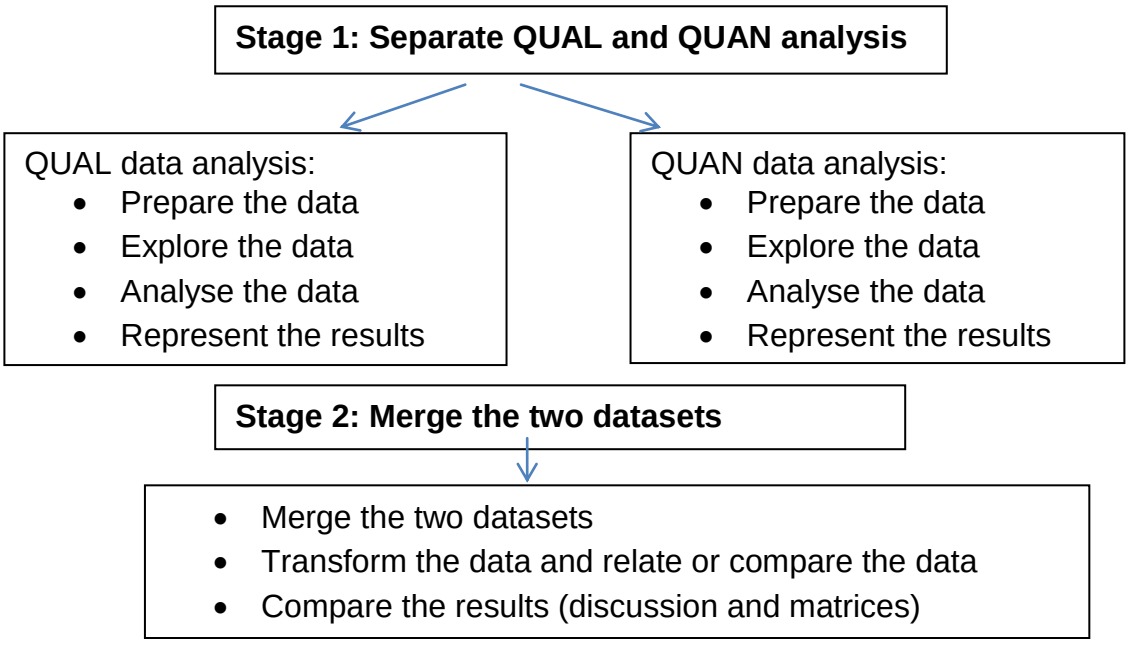


Figure 1.3: Concurrent data analysis in this triangulation design (Creswell & Clark, 2007: 137)

The two research approaches used entailed the following:

- A quantitative investigation collecting a broad scope of data on employee productivity in the South African pharmaceutical organisation milieu and the influence that tacit knowledge sharing has on sales force employees' tasks, as well as needs and barriers they might be experiencing.
- A qualitative investigation was used to provide more clarity on what sales force members in the South African pharmaceutical industry viewed as factors contributing to optimising tacit knowledge sharing in their companies.

The employee productivity in organisations and tacit knowledge sharing seem to touch on personal as well as organisational dimensions. The two methods contributed to the development issue of optimising tacit knowledge sharing. The following exposition provides a scope of the empirical methods applied:

1.5.2. Quantitative investigation

The quantitative part of the study was used to determine the opinions of respondents at organisational level regarding the tacit knowledge sharing in their organisations.

1.5.2.1 Instrument

Because quantitative research involves the measuring of things, the researcher made use of a questionnaire to collect data from selected employees at organisational level. The use of a survey was economical in terms of the time and resources involved, because it covered a large population within a short time. Quantitative research tends to adopt a structured approach, in which all the issues to be focused upon are decided in advance (Creswell & Clark, 2007: 99). In the case of the study reported on here, the focus was on finding an answer to the question of whether tacit knowledge sharing has a part to play in improving

employee productivity for South African pharmaceutical organisations and what the challenges are.

According to information from PIASA (Pharmaceutical Industry Association of South Africa) and SAMED (South African Medical Device Industry Association), there are approximately 135 companies operating in the pharmaceutical and medical device industry of South Africa (PIASA, 2011; SAMED, 2011). The self-administrative questionnaire was distributed to 300 sales force members in 10 of these companies operating in South Africa. This study can be regarded as a cross-sectional study because it was done only once so that management at sales force level could contribute to incorporating tacit knowledge sharing in their organisations. Likert scales were used as these are the most commonly used rating scale, because the use of more points on a scale will counteract the error of central tendency (*cf.* Cooper & Schindler, 2003: 252). The questions were investigative questions based on the objectives presented earlier. Others were drawn from existing research.

1.5.2.2 Sampling

For the purpose of this study, employees operating in the sales milieu of the pharmaceutical industry were sampled by means of non-probability sampling. According to Cooper and Schindler (2003: 198) carefully controlled non-probability sampling can give acceptable results. The reason for choosing non-probability sampling in this study was to overcome the non-response problem as not all companies might have been willing to participate.

In order to improve representativeness, the study involved a diverse group of respondents. The sample of people used in the research study consisted of respondents that had been in their positions for more than two years and respondents that had been in their positions for less than two years, in order to draw correlations between the groups and investigate tacit knowledge improving over time and experience. Even though the questionnaire was anonymous,

respondents were asked to supply information regarding race and ethnic group, as diversity was acknowledged during the investigation. Cooper and Schindler (2003: 199) purport that if a sample has the same distribution on these relevant characteristics, then it is likely to be representative of the population regarding other variables over which we have no control. The researcher was responsible for collecting the questionnaires at the sample companies after they had been completed by the employees, with the intention of limiting the non-response error.

1.5.2.3 Reliability and validity

According to Lankshear and Knobel (2006), researchers in quantitative studies should endeavour to use instruments that are not only reliable but also valid.

(a) Validity

A measuring instrument is valid if it measures what it is supposed to measure (Cooper & Schindler, 2003: 432). Cooper and Schindler (2003: 432) further refer to the relation between validity and the respondents' ability to answer the question asked in the instrument. The latter appeals to the content validity of the measuring instrument which should include items that provide adequate coverage of the issues under investigation. In order to enhance the content validity of the questionnaire, the researcher based the questions upon a sound theoretical base as will be discussed in Chapters 2 and 3. Cooper and Schindler (2003: 432) particularly claim that the inclusion of the "relevant items under study" is a prerequisite for content validity. By availing the questionnaire to the scrutiny of pilot testing, the researcher further contributed to its validity.

Particular care was taken during the pilot testing stage by being careful about the choice of questions and their formulation in view of ensuring clarity and relevance. By pilot testing the data collection instrument before its actual administration the researcher allowed for modification and so enhanced its

criterion-related validity, as a reliable criterion is stable and reproducible (*cf.* Cooper & Schindler, 2003: 433).

(b) Reliability

Scholars such as Lankshear and Knobel (2006) perceive reliability as the stability of response to a data collection tool irrespective of the number of times the data collection tool is administered to the same respondents. In other words, an instrument is considered reliable if it produces the same or similar results each time it is administered to the same respondents. Cronbach coefficient alpha was used to enhance internal consistency, as this test has the highest utility for multi-item scales at the interval level of investigation.

1.5.2.4 Practicality

While the scientific requirements of a project call for the measurement process to be reliable and valid, the operational requirement calls for it to be practical (Cooper & Shindler, 2003: 345). The questionnaire had detailed, clear instructions making it easy to complete, more convenient and improved interpretability.

1.5.2.5 Data analysis

According to Neumann (1997: 688) information presented in numbers is understandable and usable where investigations are conducted by means of a questionnaire. The most important steps in analysing data are efficient data management (Cooper & Schindler, 2003: 360). This implies that data collected must be of a high quality and must be fully and accurately recorded.

Therefore, the following procedures were used in analysing data collected by means of the questionnaire:

- The headings used in the questionnaire were used in the analysis of data,

- the various alternatives (from Likert scales, etc.) were presented in a table form;
- data were sorted by means of Excel. Bar charts, tables, etc. were then used to summarise the data and make it more presentable;
- the data were statistically analysed by means of the SPSS version 16 analysis programme to provide insight into the significance and value of the responses;
- the number of responses for alternatives was also converted to percentiles, in order to determine which alternative would have the most responses.

Findings, recommendations and conclusions will be discussed in Chapter 7.

The correlation between the two groups identified, namely the respondents that were in their positions for more than two years and participants that were in their positions for less than two years, was determined. Other differences of means, such as regarding gender, age and different ethnic groups were drawn to explore the diversity of the South African context. For this purpose the researcher made use of t-tests where two variables were analysed, as the t-test may be used to test for differences between two means (*cf.* Cooper and Schindler, 2003: 635).

ANOVAs were used as test instrument where more variables were analysed. One-way analysis of variance (ANOVA) partitions the total variation among scores into between-groups (treatment) and within-group (error) variance (*cf.* Cooper & Schindler, 2003: 619).

1.5.3 Qualitative investigation

The aim of the study was to construct a strategic plan for the implementation of tacit knowledge sharing practices in pharmaceutical companies in South Africa. The qualitative research, therefore, concentrated on exploring the views of sales force members and managers about strategies that may contribute to optimising

tacit knowledge sharing. The data were gathered by means of personal interviews with sales force members and members of management from a number of companies in the industry. In order to comprehend and explore the views of the participants, the improvement that tacit knowledge sharing might bring about in employee productivity was driving the data gathering.

1.5.3.1 Selection of participants

The interview process was used, asking participants specific, related questions. The interviews took place at the sample organisations. Product managers, sales managers, sales representatives, division heads and managing directors were asked to participate. The candidates were selected on the basis of their possessing insight into tacit knowledge sharing.

De Vos (2002) indicates that an interview may be structured or semi-structured. According to McMillan and Schumacher (2001), qualitative interviews require asking truly open-ended questions. De Vos (2002) also alludes that semi-structured questions are helpful for the researcher to gain a detailed picture of the participant's experiences about, and perceptions of the topic. The researcher is also able to follow up particular interesting avenues of thought that may emerge during the interview.

1.5.3.2 Data analysis

Qualitative investigations are time consuming, although they involve a smaller number of participants and are often used with subjective experience and social meaning. As data are collected in the form of words with rich description, it will give a feel for rich social settings (Neuman, 1997: 689).

When the data from the interviews were analysed, certain dominant trends were identified by following a typological approach. The deeper layers of meaning with regard to the influence of diversity on tacit knowledge were explored through a

taxonomical analysis. Accurate records were kept of all the responses; this was done by taping the interviews. The interviews were transcribed and coding was done by identifying themes, similarities and differences, as well as means of axial coding.

1.5.3.3 Reliability and validity/credibility and trustworthiness

Data were gathered until theoretical saturation had been reached to enhance validity. This happens when the results are the same time and again, and the researcher knows that enough data have been collected. Content and concept validity was ensured by guarding against bias and perspectives that the researcher might have instilled in the participants, as well as their prejudices that might have influenced their responses.

External validity (validity of the results regarding the *intended* object of study) relates to the validity of the research results, so the researcher should give an accurate description of the research process, reasons for the choice of methods, the circumstances under which it was performed and the context in which the research was conducted. The researcher also provides a “thick description” of the research situation and context, so that others can ascertain whether and to what extent the research results are valid or can be useful in their own situation or context (*cf.* Niemann, Niemann, Brazelle, Van Staden, Heyns & De Wet, 2000).

1.6 DEMARCATION AND VALUE OF THE STUDY

This report deals with a study in strategic management aimed at optimising the functionality of part of the human resource corps in the pharmaceutical industry. A human resource development challenge regarding tacit knowledge sharing among sales force members formed the core of the investigation. This exploratory study strived to obtain employee responses in the South African

pharmaceutical industry operating in the sales milieu with the aim of improving employee productivity.

The data collected provided a valuable base to the development of a strategic model for improving employee productivity by means of tacit knowledge sharing. This study therefore generated new knowledge, as there are limited models in this regard and particularly no existing models for the pharmaceutical industry in South Africa.

1.7 LAY-OUT OF THE REPORT

In order to address the outcomes, the outlay of this report is as follows:
In **Chapter 2** a meta-theoretical perspective on knowledge, and in particular tacit knowledge as a domain to be acknowledged in human resource management, is provided. This perspective was based on a grounding perspective of numerous knowledge factors such as knowledge creation, knowledge management and knowledge economy, as well as theories of knowledge creation and systems to manage knowledge. All these factors in knowledge and tacit knowledge sharing were explored by means of a profound literature review.

In **Chapter 3** tacit knowledge sharing is explored within the framework of knowledge management in the organisation and attention will be given to the influence of tacit knowledge sharing on employee productivity. The investigation reported on here, was based on a grounding perspective of the pharmaceutical industry in South Africa, as well as what employee productivity entails in this industry as it is important to define the sales force as knowledge workers and identify how they differ from the normal blue-collar worker. The investigation acknowledged the multi-cultural South African workforce and the influence of culture on knowledge sharing in an organisation. All these factors were explored by means of a profound literature review.

In **Chapter 4** the research design and methodology employed in the study will be attended to, including the data collection methods, data collection instruments, the research population and method of sampling.

Chapter 5 attends to the quantitative investigation that was done to collect a broad scope of data on employee productivity in the South African pharmaceutical organisation milieu and the influence that tacit knowledge sharing may have on sales force employees' tasks, as well as needs and barriers they might be experiencing. Trends have been identified and correlations will be drawn between the questions. Similarities and differences will be highlighted in order to address these issues in the qualitative research.

In **Chapter 6** the qualitative research will be evaluated to provide more clarity on what sales force members and managers in the South African pharmaceutical industry viewed as factors contributing to optimising tacit knowledge sharing in their companies. Trends will be identified in the responses where the interviewees had been probed on their experiences and needs. The report will focus on trends to follow up in order to provide insight in how people experience tacit knowledge sharing as stimulator for employee productivity.

In **Chapter 7** the strategic analysis of the data will be discussed with a view to devising an action plan for optimising tacit knowledge sharing in the sales force of South African pharmaceutical companies. Special attention is given to conclusions and recommendations. The research will be summarised in the form of conclusions and achievable recommendations for the implementation and the realisation of a strategic management plan for pharmaceutical companies to facilitate tacit knowledge sharing for the South African workforce.

CHAPTER 2

TACIT KNOWLEDGE: A META-THEORETICAL PERSPECTIVE

2.1 INTRODUCTION

This study was focused on developing a management model to optimise tacit knowledge sharing as a possible avenue for increasing employee productivity in the South African pharmaceutical industry. It critically views the possible value of tacit knowledge sharing, challenges experienced by sales force members and management in South African pharmaceutical organisation and the views of managers in pharmaceutical companies about its contribution to the improvement of employee productivity for sustained competiveness in the global market. In order to investigate the question of how South African pharmaceutical companies can improve tacit knowledge sharing, the constructs that underlie tacit knowledge sharing need to be investigated first.

In this chapter the problem question: *What constructs underlie tacit knowledge sharing?* is addressed resulting in a meta-theoretical perspective on knowledge, and in particular tacit knowledge as a domain to be acknowledged in human resource management. The extent of this perspective will be based on a grounding perspective of numerous knowledge factors such as knowledge creation, knowledge management and knowledge economy, as well as theories of knowledge creation and systems to manage knowledge. All these factors in knowledge and tacit knowledge sharing were explored by means of a profound literature review.

Many discussions about the modern business landscape and strategic requirements of the new millennium organisation make mention of the need for

organisations to be able to adapt quickly to an ever-changing environment. According to Stockly (2010: 2), organisations need to find new ways of gaining a competitive advantage that are no longer dependent on traditional factors of productivity. He adds that this is done by organisations moving further along the global value chain towards a greater service orientation and away from manufacturing. Businesses now need to rely more and more on leveraging intangible rather than tangible assets. The basis of growth in the modern age, as Arora (2002: 118) puts it, has shifted from natural resources and physical assets to intellectual capital and knowledge. The way business performance is now being judged has fundamentally changed. Stewart (1998: 208) recognised this with his statement that `wealth is the product of knowledge'.

2.2 PROMINENT RESEARCH ON THE KNOWLEDGE 'INDUSTRY'

Many prominent research studies have been conducted in the field of knowledge management and organisational learning. Cross (2000) specialised in research on knowledge in order to connect organisational behaviour and information technology and focused on categories such as social networks, organisational learning, organisational effectiveness and change. Britt (2007) focused on the broader management of knowledge in the pharmaceutical industry in order to discover the therapeutic value of knowledge for process development. Kang, *et al.* (2008: 1561) focused on the value of knowledge for firms in South Korea and how this contributed to individual success. Stockly (2010) investigated the human capital concept and what part knowledge plays in the daily lives of employees.

Together their findings were based on studies done in over sixty companies and government agencies where they applied social network analysis to organisational issues such as merger integration, strategic partnerships, alliances, new product and process development, large-scale change, initiation of communities of practice and leadership effectiveness. This chapter will amongst others pay attention to these studies as well as a series of other studies on the

application and acquisition of knowledge, as well as of social network analysis and how this aims at improving knowledge creation and sharing within and across organisations.

2.3 KNOWLEDGE

The knowledge that workers bring to work on a day-to-day basis is a critical resource embedded within organisations. The human capital brings with it skills, tacit knowledge and explicit knowledge which are used in the workplace to get work done efficiently and effectively (Cross, 2000: 5; Stockly, 2010: 7). Figure 2.1 provides a representation of knowledge for a productive worker.

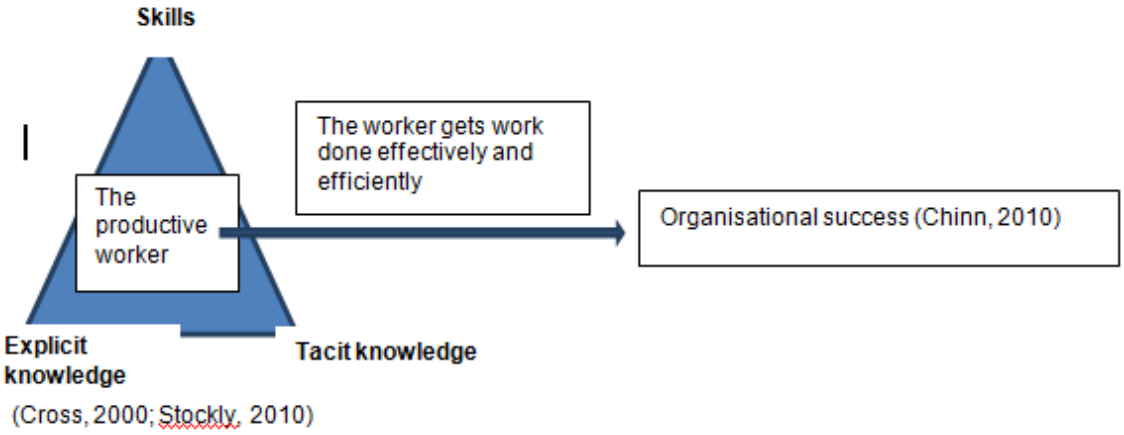


Figure 2.1: Knowledge for the productive worker

2.3.1 Knowledge – some defining concepts

In the field of philosophy the study of knowledge is referred to as epistemology. How knowledge should be defined is a matter of on-going debate among philosophers. The philosopher Plato famously tried to define knowledge as "justified true belief" and specifies that a statement must be justified, true and believable in order to be considered as knowledge (Newton, 1999: 790). However, some philosophers, such as Robert Nozick's and Simon Blackburn,

claimed that these three conditions were not sufficient and proposed some alternatives. In this regard Nozick's (as cited in Newton 1999: 792) argued that knowledge only 'tracks the truth' while Blackburn (Blackburn, 1993: 45) was very critical of the requirements and felt that those who met any of these conditions 'through a defect, flaw, or failure' could not necessarily be regarded as having knowledge.

The genealogists movement (as cited in Foucault, 1980: 85), who later questioned the emergence of various philosophical and social beliefs beyond dominant ideologies, also attempted to define knowledge by placing it within the context of power relations – a concept that was expanded by Michel Foucault (1969: 153), who preferred to deconstruct truth, arguing that truth is, more often than not, discovered by chance and backed by the operation of power or the consideration of interest. All truth can therefore be seen as questionable. This is maybe more a case of knowledge cannot necessarily be equated with the truth. Foucault (1980: 107) stated that knowledge was the creator of power and added that an object becomes a node within a network. He used the example of a book to illustrate a node within a network. A book is not made up of individual words on a page, each of which has meaning, but rather "is caught up in a system of references to other books, other texts, other sentences." The meaning of that book is connected to a larger, over-arching web of knowledge and ideas to which it relates.

It is, however, interesting to note that even though the writings of Foucault on power, knowledge, and discourse have been widely influential in academic circles, many have criticised his work. The philosopher Scruton (2005: 216) described Foucault as an example of a fraud who exploited the known difficulties of philosophy in order to disguise unexamined premises as hard-won conclusions. He was supported by Rorty (1986: 12) who argued that Foucault's 'archaeology of knowledge' was fundamentally negative and thus failed to

adequately establish any 'new' theory of knowledge. Rorty added that Foucault simply provided a few valuable observations regarding the reading of history.

In dealing with the problematic nature of defining “knowledge”, Wittgenstein (as cited in Haraway, 1998: 575) sought to bypass it by looking at the way knowledge is used in natural languages. He saw knowledge as a case of a family resemblance (Biletzki & Matar, 2011: 11). Following this idea, knowledge seems to be reconstructed as a cluster concept that points out relevant features but that is not adequately captured by any definition.

These notions were preceded by Postman (1992: 21), who argued that communicating knowledge is important for the survival of knowledge. He cited examples of knowledge communication to include observation and imitation, verbal exchange, and audio and video recordings. While many would agree that one of the most universal and significant tools for the transfer of knowledge is writing (of many kinds), argument over the usefulness of the written word exists nonetheless. Postman (1992: 21) supported the idea that the written word is a tool of recollection rather than retained knowledge. Biletzki and Matar (2011: 12) hinted to the possibility for writing to be used to spread false information and therefore the ability of the written word to decrease social knowledge. The possibility therefore arises that people are often internalising new information which they perceive to be knowledge, but in reality they fill their minds with false knowledge.

Biletzki and Matar (2011: 11) further argues that verbal communication lends itself to the spread of falsehoods much more so than written communication, as usually neither the source nor the content can be verified. Gossips as well as rumours are common examples of this. The recording and communication of knowledge have therefore become another focus as the extent of human knowledge is now so great that it is only possible to record it and to communicate it through writing (Tsai, 2002: 170). Major libraries today can have millions of

books of knowledge and it is only recently that audio and video technology for recording knowledge has become available. Verbal teaching and handing down of knowledge is limited to those few who would have contact with the transmitter person.

In view of the above it is easy to agree with Cavell (1969: 5) that writing is still the most available and most universal of all forms of recording and transmitting knowledge. It stands unchallenged as mankind's primary technology of knowledge transfer down through the ages and to all cultures and languages of the world.

2.3.2 Knowledge – conceptual understanding

As mentioned, epistemology is the study of knowledge and how it is acquired. Science, however, is the process used every day to logically complete thoughts through extrapolation of facts determined by planned experiments (Newton, 1999: 789). The development of the scientific method of knowledge creation has made a significant contribution to how knowledge is acquired. To be termed scientific, a method of inquiry must be based on gathering observable and measurable evidence subject to specific principles of reasoning and experimentation (Peet 2011: 50). The scientific method consists of the collection of data through observation and experimentation, and the formulation and testing of hypotheses. Sir Francis Bacon (as cited in Haraway, 1998: 585) was critical in the historical development of the scientific method and his works established and simplified an inductive methodology for scientific inquiry. He is also famous for the statement “knowledge is power".

Chen and Edgington (2005: 99) stressed, however, that scientific knowledge may not involve a claim to certainty as maintaining scepticism means that scientists will never be absolutely certain when they are correct and when they are not. It is thus an irony of proper scientific method that one must doubt even when correct,

in the hope that this practice will lead to greater convergence on the truth in general. It is apparent that most real problems have to be solved by taking advantage of a partial understanding of the problem context and problem data, unlike the typical math problems one might solve at school, where all data is given and one is given a complete understanding of formulas necessary to solve them.

Bhaskar and Sengupta (2007: 279) stated that our knowledge is always partial and incomplete and it is therefore not possible to understand an information domain comprehensively. This idea was supported by Chang, Ratinov and Roth (2007, 287) in their understanding of the concept of bounded rationality which assumes that in real life situations people often have a limited amount of information and make decisions accordingly. According to Chang *et al.* (2007: 285) situated knowledge is knowledge specific to a particular situation. Some methods of generating knowledge, such as trial and error, or learning from experience, tend to create highly situational knowledge. One of the main characteristics of the scientific method is that the theories it generates are much less situational than knowledge gained by other methods. Situational knowledge is often embedded in language, culture, or traditions.

Knowledge generated through experience is called knowledge "a posteriori", meaning afterwards (Chang *et al.* 2007: 286). The pure existence of a term like "a posteriori" means this also has a counterpart. In this case that is knowledge "a priori", meaning before. The knowledge prior to any experience means that there are certain "assumptions" that one takes for granted. For example, if you are being told about a chair it is clear to you that the chair is in space, that it is 3D. This knowledge is not knowledge that one can "forget", even someone suffering from amnesia experiences the world in 3D.

Researchers in the field of positive psychology have defined wisdom as the coordination of "knowledge and experience" and "its deliberate use to improve

wellbeing (Sternberg, 1985: 11). Wisdom is a deep understanding and realization of people, things, events or situations, resulting in the ability to apply perceptions, judgments and actions in keeping with this understanding (Kleinman, Lee, Delborne & Anderson 2011: 230). A person's action is determined by universal principles, reason and knowledge, and in order for these actions to be deemed as wise, it often requires control of one's emotional reactions. Wisdom is also the understanding of what is true together with optimum judgment as to what action to take. Synonyms of wisdom include sagacity, discernment, or insight. Psychologists have gathered data on commonly held beliefs or folk theories about wisdom. These analyses indicate that although there is an overlap of the implicit theory of wisdom with intelligence, perceptiveness, spirituality and shrewdness, it is evident that wisdom is a distinct term and not a combination of other terms (Sternberg, 1985: 10).

Wisdom is also important within Christianity. Jesus emphasized it many times in the Bible as in Matthew 11: 19 – "The Son of man came eating and drinking, and they say, Behold a man gluttonous, and a winebibber, a friend of publicans and sinners. But wisdom is justified of her children." Paul the Apostle, in his first epistle to the Corinthians, argued that there is both secular and divine wisdom, urging Christians to pursue the latter (Peterson and Selingman, 2004: 106).Prudence, which is intimately related to wisdom, became one of the four cardinal virtues of Catholicism. The Christian philosopher, Thomas Aquinas, considered wisdom to be the "father" (i.e. the cause, measure and form) of all virtues (Peterson and Selingman, 2004: 106). Knowledge is a familiarity with someone or something, which can include facts, information, descriptions, or skills acquired through experience or education. It can refer to the theoretical or practical understanding of a subject. Collins (2011: 38) states that it can be implicit (practical skill or expertise) or explicit (theoretical understanding of a subject); and it can be more or less formal or systematic.

Nonaka, Toyama and Voelpel (2006: 1189) studied the concept of knowledge intensely and defined knowledge as human understanding of subject matter that has been acquired through proper study and experience. He added that knowledge is usually based on learning, thinking, and proper understanding of the problem area. It is therefore the accumulation of facts, procedural rules, or heuristics where a fact is generally a statement representing truth about a subject matter or domain, a procedural rule is a rule that describes a sequence of actions and a heuristic rule is a rule of thumb based on years of experience.

Nonaka *et al.* (2006: 1188) further added that data represents unorganised and unprocessed facts, usually static in nature and is a prerequisite to information, which can be considered as an aggregation of data (processed data) which makes decision making easier, as information has usually got some meaning and purpose. Knowledge is therefore derived from information in the same way information is derived from data.

For a matter of interest, Nonaka, Toyama and Hirata (2008: 651-653) defined the following concepts:

- Intelligence implies the capability to acquire and apply appropriate knowledge.
- Memory indicates the ability to store and retrieve relevant experience according to will.
- Learning represents the skill of acquiring knowledge using the method of instruction/study.
- Common sense refers to the natural and mostly unreflective opinions of humans.

Nonaka (1994: 17) stated that experience relates to the understanding that develops through past actions. Figure 2.2 provides a representation of knowledge as defined by Nonaka *et al.* (2006).

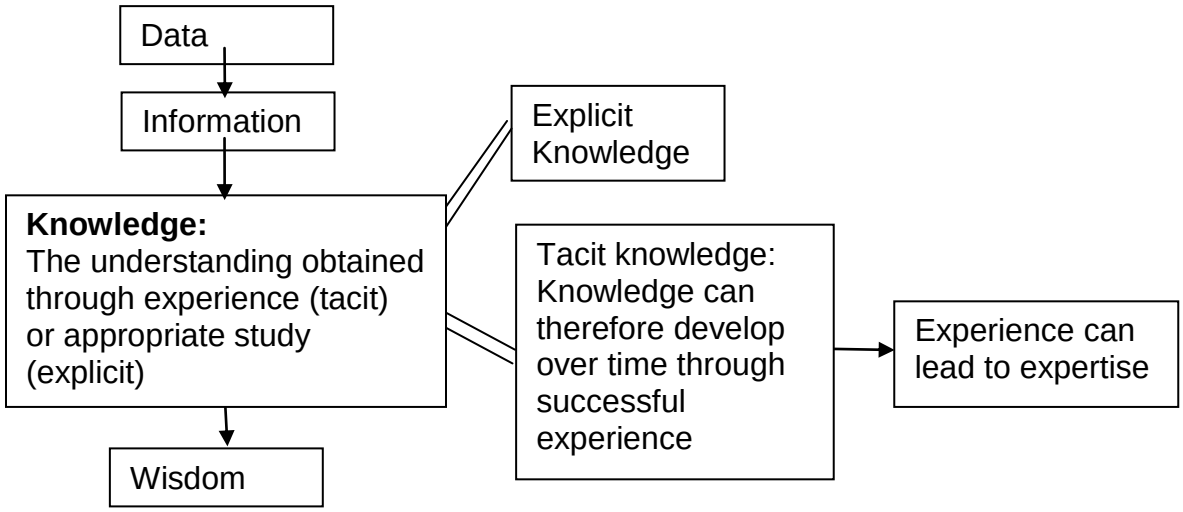


Figure 2.2: Tacit and Explicit knowledge: Adapted from Nonaka *et al.* (2006:1196)

It is clear from the discussion thus far that knowledge can develop over time through successful experience, and experience can lead to expertise. It is also understandable then that wisdom (as defined by Nonaka 1994: 14) is the coordination of "knowledge and experience" and "its deliberate use to improve well-being." The New Liberalism notion (as cited in Keller 2001: 380) is that, in order for a society to be maintained and to evolve, it is necessary to take into account our responsibility to future generations. The key challenges of our time, from climate change to growing debt and deficits, and the growing inequalities, all threaten not only our freedom, but the freedom of future generations.

Where classical liberalism was centred on negative freedom (freedom from harm) and social liberalism was centred on the broader concept of positive freedom (freedom to develop), new liberalism adds a further dimension with the concept of timeless freedom, ensuring the freedom of future generations through proactive action taken today (Keller, 2001: 380). The implication of this for knowledge is that knowledge can only be valuable if it is shared and acted upon, as human development is centred on action taken. It is therefore interesting to

note the definition of knowledge by Sveiby (2000: 123), who defines knowledge as human ability resulting from interpreted information - understanding that germinates from a combination of data, information, experience and individual interpretation. Sveiby (2000: 122) adds that knowledge is a capacity to act. His views are supported by Bhatti (2010: 5) who states that knowledge is variously defined as things that are held to be true in a given context and that drive us to action if there are no impediments.

In view of the above, it is easy to agree with Newton (1999: 787) that no single agreed-upon definition of knowledge exists, and the question how knowledge should be defined is perhaps the most important and difficult to answer. The trouble is that no one knows what a belief is, no one knows what a fact is, and no one knows what sort of agreement between them would make a belief true.

The problem that faces the sales force of companies in general is that there are limited strategies for improving tacit knowledge sharing (Britt, 2007: 25) and this might be true for the sales force in pharmaceutical companies as well. The problem still remains in South African pharmaceutical companies as to how they can improve tacit knowledge sharing to ensure competitive advantage. Even though knowledge is a subjective term and only partially understood, most real problems have to be solved by taking advantage of a partial understanding of the problem context and problem data. Locke (1999: 9) states that even though knowledge is a controversial concept, it is clear that knowledge creates power and this power results from information that can be interpreted. He adds that in order for knowledge to create power, a capacity to act must be facilitated.

Nonaka (1994: 28) stated that experience relates to the understanding that develops through past actions. From this it is also apparent that knowledge can develop over time through successful experience and this might be where tacit knowledge sharing comes in.

2.3.3 Explicit and tacit knowledge

Nonaka *et al.* (2006: 1179) found another way of classifying knowledge on the base of whether it is *tacit* or *explicit.* They state that *tacit knowledge* usually gets embedded in the human mind through experience, whereas e*xplicit knowledge* is that which is codified and digitized in documents, books, reports, spread sheets, memos and so forth.

According to Michael Polanyi (1966: 77), knowledge that can be expressed in either words or numbers only represents the tip of the iceberg of the entire body of possible knowledge. Polanyi was the first to classify human knowledge into two categories, namely explicit and tacit. Figure 2.3 is a representation of the notion of the iceberg as explained by Polanyi in order to classify tacit and explicit knowledge.

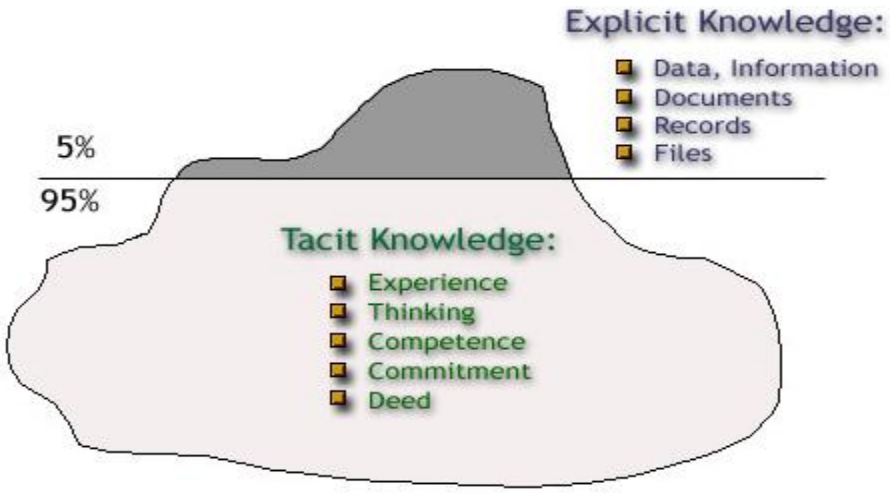


Figure 2.3: The iceberg metaphor for the relationship between tacit and explicit knowledge (adapted from Polanyi, 1966: 17)

"Explicit" or codified knowledge refers to knowledge that is transmittable in formal, systematic language. It is therefore knowledge that has been or can be articulated, codified, and stored in certain media. It can be readily transmitted to others- the information contained in encyclopaedia is a good example. The most

common forms of explicit knowledge are found in manuals, documents, procedures, and how-to videos. Knowledge also can be presented audio-visually. Works of art and product design can be seen as other forms of explicit knowledge where human skills, motives and knowledge are externalised. Figure 2.4 is a representation of explicit knowledge.

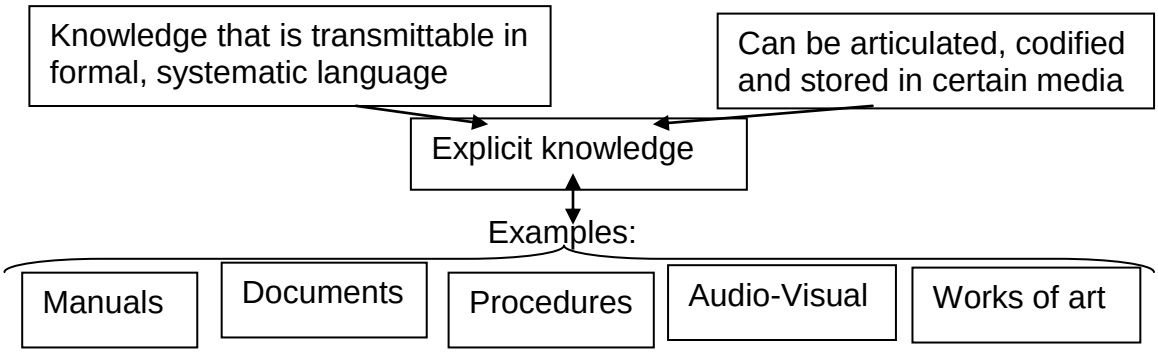


Figure 2.4: Defining explicit knowledge

The term “tacit knowing” or “tacit knowledge” (as opposed to formal or explicit knowledge) was first introduced into philosophy by Michael Polanyi in 1958 in his *magnum opus*, “Personal Knowledge: The notion of ‘tacit knowledge’ or ’tacit knowing’”. He describes the fact that “we can know more than we can tell” (Polyani, 1966: 10). According to Polanyi, not only is there knowledge that cannot be adequately articulated by verbal means, but also, all knowledge is rooted in tacit knowledge in the strong sense of that term. According to Polyani (1966: 10) and Nonaka *et al.* (2006: 1180) tacit knowledge, other than explicit knowledge, has a personal quality, which makes it hard to formalise and communicate. The personal quality referred to is the fact that it is deeply rooted in action, commitment, and involvement in a specific context.

Tacit knowledge involves both cognitive and technical elements. The cognitive elements, which include schemata, paradigms, beliefs and viewpoints provide “perspectives” that help individuals to perceive and define their world (Nonaka *et al.*, 2006: 1182). By contrast, the technical element of tacit knowledge covers

concrete know-how, crafts and skills that apply to specific contexts. Tacit knowledge is defined as work-related practical knowledge. It is that which is neither expressed nor declared openly, but rather implied or simply understood, and is often associated with intuition. This kind of knowledge is difficult to transfer to another person by means of writing it down or verbalising it. For example, stating to someone that Johannesburg is in South Africa is a piece of explicit knowledge that can be written down, transmitted and understood by a recipient.

However, the ability to speak a language, use algebra, or design and use complex equipment requires all sorts of knowledge that is not always known explicitly, even by expert practitioners, and which is difficult to explicitly transfer to users (Wagner, Sujan & Roshotte, 1999: 160). In view of the above it is noteworthy that while tacit knowledge appears to be simple, it has far-reaching consequences and is not widely understood. Tacit knowledge has been described as “know-how” - as opposed to “know-what” (facts), “know-why” (science), or “know-who” (networking). It involves learning and skill, but not in a way that can be written down (Zhenhua, 2003: 22). On this account knowing-how or embodied knowledge is characteristic of the expert, who acts, makes judgments, and so forth without explicitly reflecting on the principles or rules involved. The expert works without having a theory of his or her work; he or she just performs skilfully without deliberation or focused attention.

Similarly, you may know explicitly how to hold the handle of a hammer, but you cannot simultaneously focus on the handle and hit the nail correctly with the hammer. The master pianist can perform brilliantly, but if he begins to concentrate on the movements of his fingers instead of the music, he will not be able to play as a master. Knowing the explicit knowledge does not help in performing well in the tasks since very few people are aware of it when performing (Wagner *et al.* 1999: 162-166). In Figure 2.5 tacit knowledge is represented schematically.

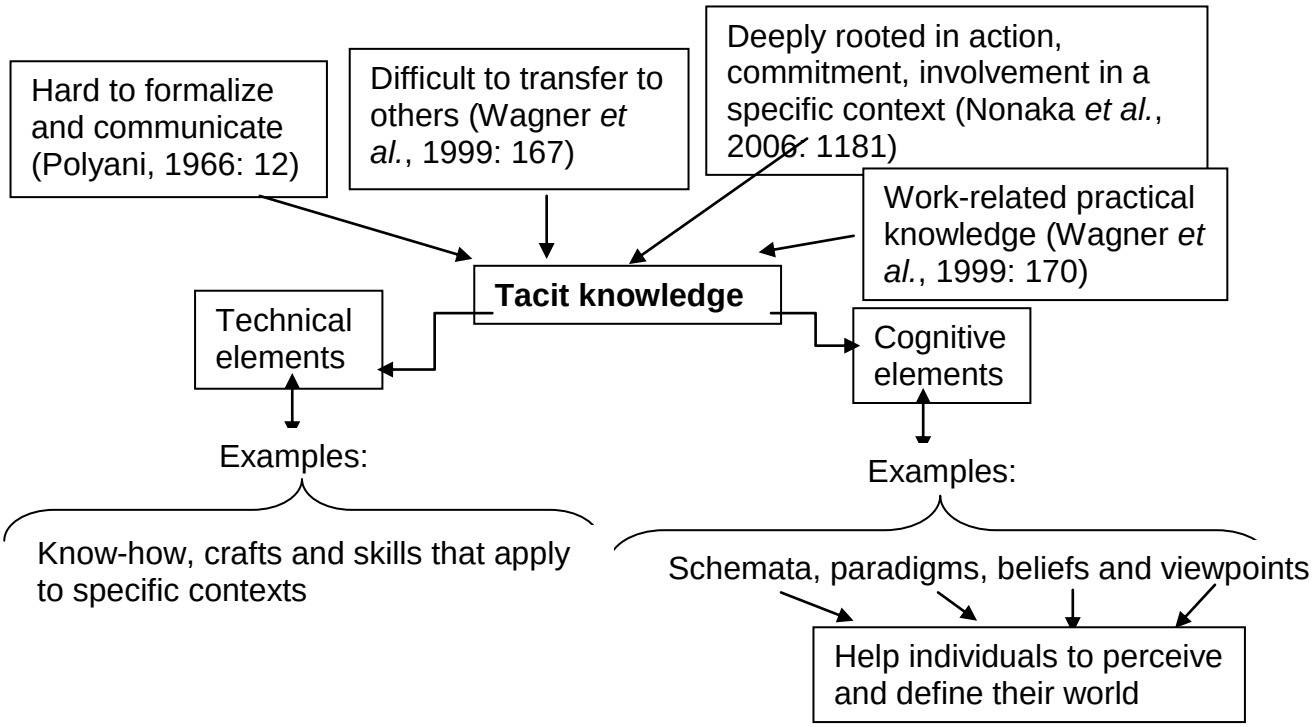


Figure 2.5: Defining tacit knowledge

The concept of tacit knowledge, in the field of knowledge management, refers to knowledge possessed only by an individual and difficult to communicate to others via words and symbols. Therefore, Zhenhua (2003: 15) argues that an individual can acquire tacit knowledge without language. Apprentices, for example, work with their mentors and learn craftsmanship not through language, but by observation, imitation, and practise. The key to acquiring tacit knowledge is experience. Without some form of shared experience, it is extremely difficult for people to share each other's thinking processes (Zhenhua, 2003: 16).

Although it is possible to distinguish conceptually between explicit and tacit knowledge, they are not separate and discrete in practice. The interaction between these two modes of knowing is vital for the creation of new knowledge (Zhenhua, 2003: 19).The conclusion can be drawn that tacit knowledge might only be acquired through practical experience in the relevant context.

Zhenhua (2003: 20) adds that tacit knowledge can be distinguished from explicit knowledge by means of ability to code the knowledge and the mechanism of transferring knowledge. While explicit knowledge can be codified and easily transferred without knowing the subject, tacit knowledge is intuitive and unarticulated knowledge that cannot be communicated, understood or used without the person that possesses the knowledge. Unlike the transfer of explicit knowledge, the transfer of tacit knowledge requires close interaction and the build-up of shared understanding and trust between the transmitter and recipient. It is therefore suggested that the main methods for the acquisition and accumulation of these two knowledge forms will also differ. It will thus be of value to look at different knowledge creation models and see how they can help in understanding how to optimally share tacit knowledge.

2.4 KNOWLEDGE CREATION

Nonaka *et al.* (2006: 1180) noted that in order for new knowledge to be created, humans learn new facts, integrate them in some way which they think is relevant and organize the result. Human learning can therefore occur through experience, by example and by discovery. It is, however, interesting to note that knowledge has no value if the capacity to act on new knowledge is not created. It is important to map out a route of gaining an understanding of our past actions and experiences and then create a capacity to act on this new knowledge.

2.4.1 Knowledge creation models for people

There are numerous knowledge creation theories and models trying to explain this concept and the most applicable ones to this study will be briefly discussed.

Nonaka (1994: 21) described the terms *tacit knowledge* and *explicit knowledge* as the two main types of human knowledge where the formation of new ideas happens through interactions between explicit and tacit knowledge in individual

human minds. Nonaka and Takeuchi's knowledge creation model (as sited in Nonaka *et al.* 2006: 1204) centres around four different patterns of interaction between tacit and explicit knowledge. The first pattern is called socialisation, and here knowledge is created through shared experiences in the workplace. Socialisation takes place among people in meetings and/or team discussions. The most important aspect of this stage is the creation of a shared space where people can be in contact with peers and other team members and tell their stories of what has happened to them in the field or workplace.

The next stage is called externalisation, and during this stage, the need develops to convert the new tacit knowledge, gained in the first phase, into explicit knowledge. Time is spent to discuss what team members have experienced in the field of work, what mistakes they have made, what successes they have achieved. The conversion of knowledge from tacit to explicit takes place because the people are now stimulated to brainstorm reasons for their successes or failures. During this stage, a deeper understanding is achieved by the individuals regarding their experiences. In order for knowledge to be converted from tacit to explicit, the knowledge needs to be captured in some form. This is the third stage of this model and is called combination. During this stage, the new ideas and the agreed-upon way forward are captured and recorded in some form, such as a written report. This is done so that the new knowledge gained can be of value to other team members and for a global audience, as the value of knowledge lies in the sharing of acquired knowledge and the capacity to act on this knowledge.

The final stage of this model is called internalisation where knowledge is converted from explicit knowledge to tacit knowledge. As mentioned in 2.2.1, knowledge is a controversial concept, but it is clear that knowledge creates power and this power results from information that can be interpreted and then acted upon. This final stage of the model confirms this, as this is where the knowledge recorded in the third stage of his model, is now acted upon by new/other team members. They have now learned through the experience of

others and have also acted upon this new knowledge. Nonaka *et al.* (2006: 1208) also state that this is the stage where actual learning takes place.

The SECI (socialisation, externalisation, combination, internalisation) model (see Figure 2.6), therefore, represents ways in which existing knowledge can be "converted" into new knowledge. Social interaction among individuals then provides an ontological dimension to the expansion of knowledge. Nonaka (1994: 19) argues that the key to knowledge creation lies in the way it is mobilised and converted, in which technology and the core of the knowledge play a role, meaning that knowledge is created through a continuous dialogue between tacit and explicit knowledge.

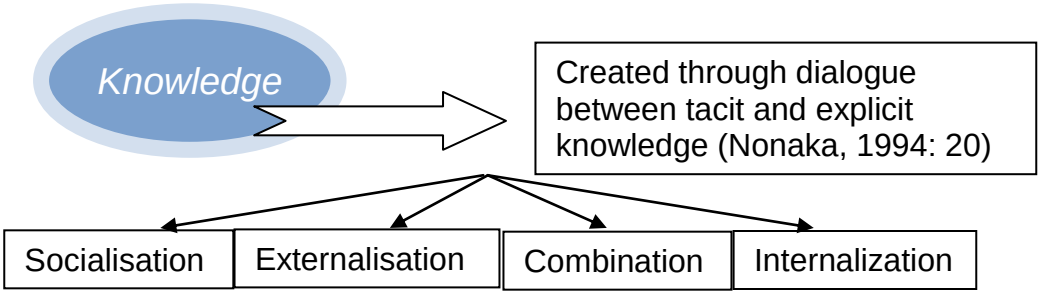


Figure 2.6: Knowledge creation according to the SECI model (Nonaka, 1994: 20)

Garnia, Fernando, Martin and Gregorio (2002: 31) agree with Nonaka that tacit knowledge originates during casual relationships and/or by clear and formally structured reasoning during team meetings and other such gatherings. Their analysis claims that individual knowledge is shaped by personal experiences, through space and time, caused by relations with other individuals. They further stress the importance of the human brain and how it understands and interprets stories and experiences shared by team members. The human brain gets involved in this process by means of emotional, personal and subjective reasoning. This is then where tacit knowledge is created. The apparent problem here is that companies might miss out on a lot of new knowledge as individuals

are continually unfolding an endless knowledge creation cycle in their minds based on the four basic processes of knowledge conversion, discussed in the SECI model. The way knowledge creation is stimulated and managed, as well as how new knowledge is recorded, cannot be stressed enough. These concepts, however, will be discussed later in the report. Garnia *et al.* (2002: 31) expanded on the initial SECI model proposed by Nonaka (1994: 20) by defining the differences and similarities between the individual, group, organisational and the inter-organisational knowledge creation process.

Groups are able to create knowledge through the time using the SECI processes. Group-level knowledge is captured in the institutional (organisational level) and general (inter-organisational level) environment in a way similar to the individual process. The process of socialisation discussed in the SECI model shapes a body of shared tacit knowledge among team members through time and space. This process of socialization encompasses observation, imitation and practice shared between team members. This body of tacit knowledge is then group specific and this group specific knowledge is then shared through metaphors and analogies, and this creates a common language that the team members use to describe their experiences (Goffin & Koners, 2011: 318). When knowledge is closely related to practice and experience, and becomes personal and subjective for the group, internalisation takes place at a group level.

According to Garnia *et al.* (2002: 32), the organisation as a system comprises several sub-systems, groups and teams, which in turn are composed by several elements or individuals. In the inter-organisational environment, several agents are present, such as customers, suppliers and the government. The knowledge creation process is similar to the process at individual, group and organisational level. The SECI model here is triggered off by the relationship between the organisation and its environment, again through time and space. The experiences gained and shared in this space provide stimulus and knowledge that trigger off the process of an own SECI model (Garnia *et al.*, 2002: 31).

Therefore, in view of the above, it is clear that groups and individuals that make up the organisation continuously provide contributions from their own bodies of knowledge, which enrich the organisational one and trigger off the socialisation, externalisation, combination and internalisation as the diagram below (Figure 2.7) depicts. Competitive advantage is gained at this level, as the knowledge now flows over to all stakeholders in the business.

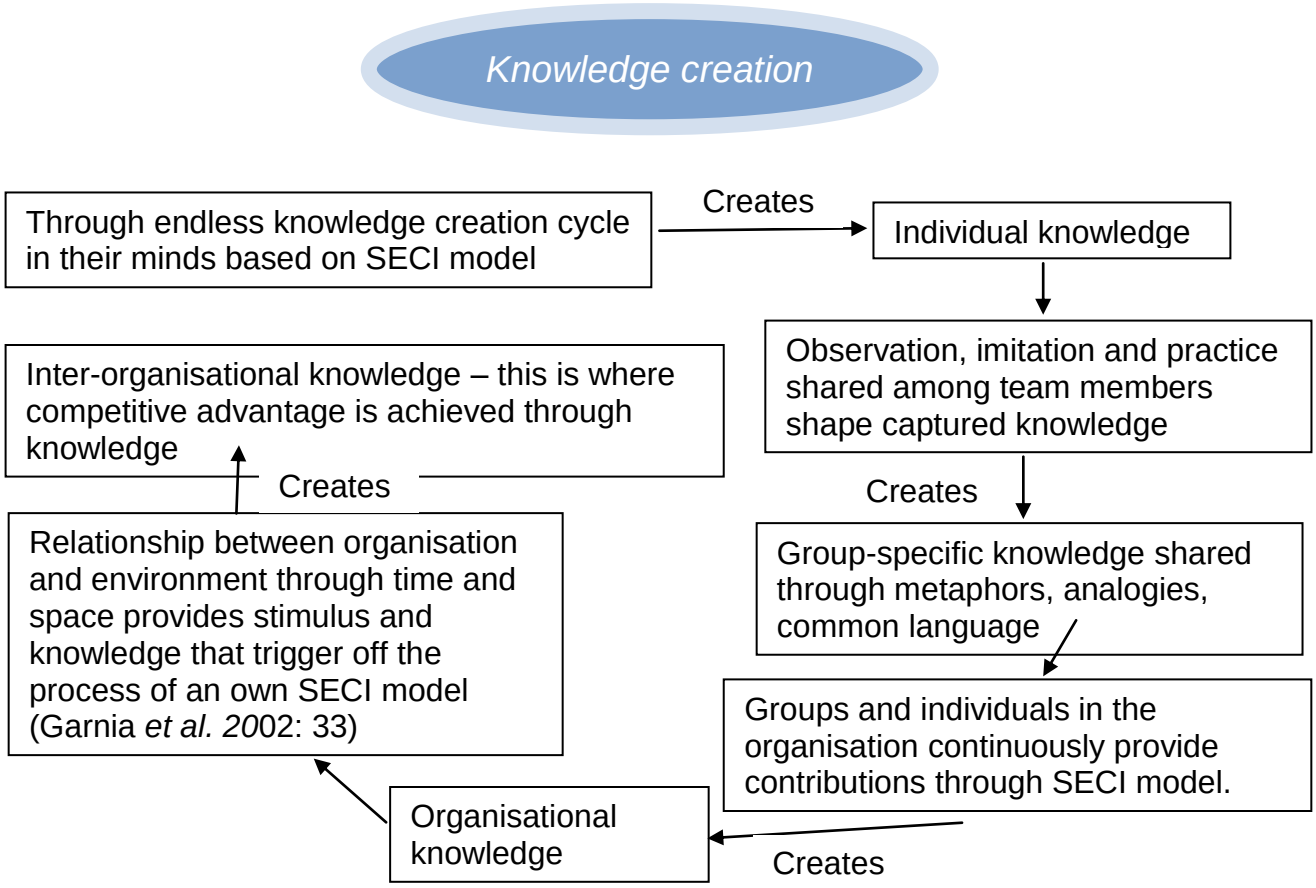


Figure 2.7: Evolution of knowledge creation from individual through inter-organisational level.

Cook and Brown (1999: 381-383) emphasise that a corporate culture needs to be created where people understand their responsibilities when it comes to the sharing of knowledge. They state that explicit knowledge can be expressed in

words and numbers and can be easily communicated and shared in the form of hard data, scientific formulae, codified procedures and universal principles. The use of tacit knowledge, however, is affected by corporate culture, as basic assumptions; beliefs and values individuals hold are important in determining whether the person will be willing or equipped to share his/her knowledge. This aspect of culture will be addressed in Chapter 3.

Sanchez (2001a) holds interesting views regarding knowledge creation as he argues that there is a tacit knowledge approach and an explicit knowledge approach. The tacit knowledge approach, on the one hand, emphasizes an understanding of the kind of knowledge that individuals in an organisation have and then encourages people to transfer knowledge within the group and the organisation. He also stresses the importance of identifying and managing key individuals as knowledge creators and carriers. Therefore, one has these change agents present in one's groups in order to stimulate tacit knowledge sharing during any socialisation process, as depicted in Figure 2.8.

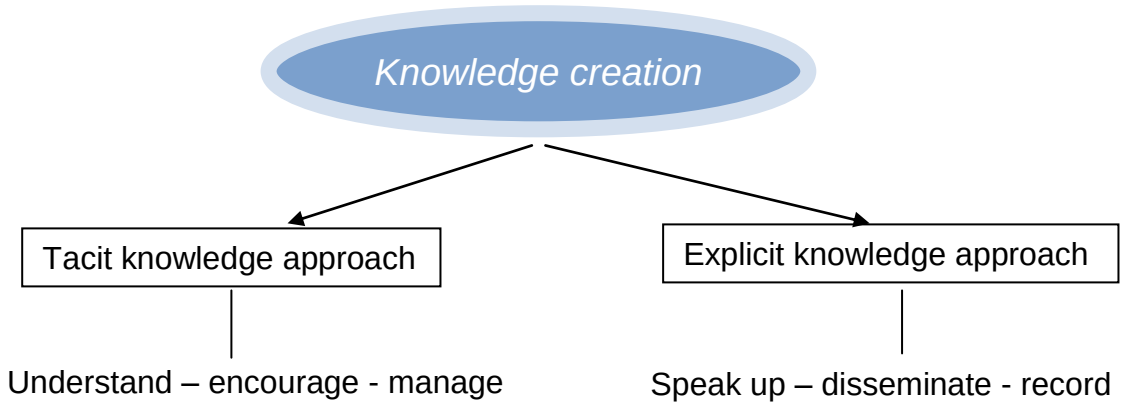


Figure 2.8: Tacit and explicit knowledge approach to knowledge creation

The explicit knowledge approach, on the other hand, emphasizes processes where a time and place are created for individuals to speak their minds and discuss any experience they have had in the field. Sanchez (2004: 62) also

highlights the need for the development of systems (including information systems) in order to record and disseminate the articulated knowledge within the groups and organisation. If this does not happen, the knowledge will not be of value for any other individual to act upon.

2.4.2 Knowledge creation models for organisations

In view of the models discussed above, Nonaka and Toyama, (2007: 156) aptly defined knowledge in the workplace as justified true belief that increases an entity's capacity for effective action. In an organisational context, knowledge is therefore the sum of what is known and resides in the intelligence and the competence of people. Locke (1999: 10) also alludes to the fact that in recent years, knowledge has come to be recognised as a factor of production in its own right and therefore needs to be managed pro-actively.

It is evident that most organisations, even in the South African environment, have given substantial priority to the development of explicit knowledge in its workforce. Apparent in the South African pharmaceutical environment is that companies will earn BEE (Black Economic Empowerment) points for every employee sponsored to attend a university or university of technology. These initiatives mostly improve the employees' explicit knowledge. It will, however, also be of value to give the correct attention to tacit knowledge, as this will be where attaining competitive advantage for most organisations lies, as little attention has been given by companies to develop this type of knowledge in employees. This viewpoint is supported by Sveiby (2000: 123) who, more than a decade ago, warned organisations to put systematic ways of working in place to develop the knowledge embedded in people. Explicit knowledge can easily circulate within organisations, but the limited access to tacit knowledge has raised the interest of organisations to develop strategies for employees to bring their tacit knowledge into the equation.

As mentioned earlier in the chapter, organisations with a strong strategic focus on knowledge will also become more and more innovative and attain competitive advantage through facilitating knowledge development. It will be of value to investigate the capture of tacit knowledge further and look at how knowledge is transferred and shared, as the value of knowledge is not just the knowledge. Knowledge sharing is an important part of knowledge management and the value of knowledge can therefore only be seen in its transfer, sharing and utilisation (Zack, 1999: 85). Wagner *et al.* (1999: 166) aptly point to one of the major problems in organisational knowledge creation and management in that even though the organisation sees knowledge as an asset which it seeks to optimise, this process is not unidirectional. Individuals consider their knowledge as 'career capital' and have a strategy of building it up in order to be considered employable. This leads to a definitive shift in employment relationships and can be seen as the creation of a social phenomenon rooted in the tension between knowledge and power. Individuals in an organisation have the intention of gaining as much as possible knowledge in the workplace, but then have to protect the knowledge gained in order to have a competitive advantage over the next person competing with them for future career opportunities.

Nonaka and Toyama (2007: 231) tried to address the issue of individuals holding on to their own knowledge by stressing the importance of the space where knowledge is shared. Effective knowledge-creating activity depends on a shared space that promotes emerging relationships. They called this space "*ba"* and at this shared space or "*ba",* one can be open to others by losing oneself, seeing oneself in relation to others and accepting their views and values. It will therefore be of utmost importance for managers and organisations to take note of where they want knowledge creation and socialisation to take place and then provide an optimal atmosphere for the sharing of knowledge. This will strengthen their ability to achieve the objective of knowledge transfer.

Nonaka and Toyama (2007: 233) further argue that any organisation needs to protect its knowledge assets as sources of competitive advantage, and this makes the management of the space where knowledge transfer needs to take place, even more important. Overall, the socialisation aspect of knowledge creation is not limited to the organisation, but extends to other stakeholders such as customers and suppliers. Nonaka and Toyama (2007: 230) note that all the processes that need to happen in an organisation in order to create knowledge are guided by a deliberate creation of enabling conditions. Knowledge creation, therefore, does not happen by chance and needs a focused effort by management in order to be deemed successful.

The foundation of knowledge transfer and creation is human interaction and socialisation. Nonaka and Toyama (2007: 231) pointed to the importance of creating routines or procedures during knowledge creation sessions in order to learn positive behaviour, break negative behaviour and/or create new behaviours. They called these steps "*shu*" (learn), "*ha*" (break) and "*ri*" (create). By doing the above, you will create a group specific pattern or way of doing things, which will also enhance the culture you are trying to create where people can freely share their knowledge. The socialisation aspect of knowledge creation will allow for routines that are specific to the group or organisation. The aim of these creative routines is to create a process that cannot be duplicated by competition, hence creating a competitive advantage for the team in the workplace. Knowledge enabling emphasises human relationships and good communication, and this will spin off into other organisational advantages, such as improved quality of the new knowledge, improvement in the speed with which new knowledge is created, increased employee satisfaction, better corporate image, and better relations with customers, suppliers and other strategic partners. Effective knowledge creation is depicted in Figure 2.9.

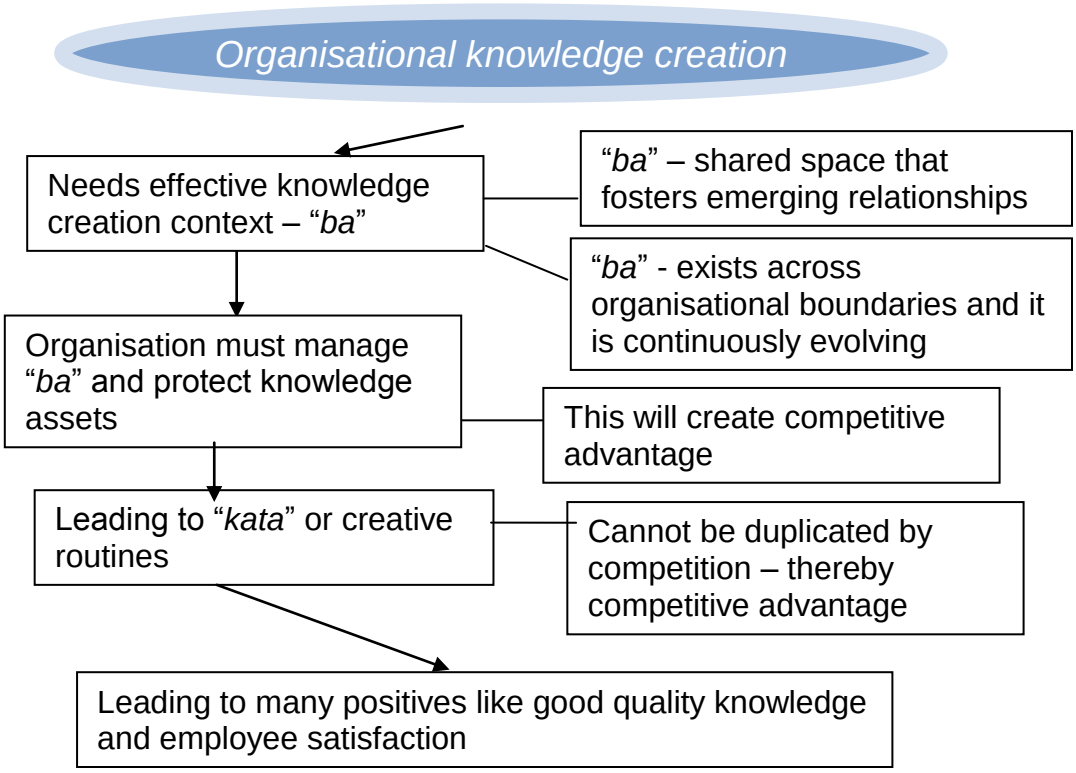


Figure 2.9: Effective organisational knowledge creation

Dalkir and Jenkins (2004) also stresses the importance of constant management of the knowledge creation process due to the fact that organisations continuously create new knowledge by restructuring and rebuilding existing perspectives and frameworks on a day-to-day basis. If knowledge creation is to be meaningful for organisations, they should not be scared to re-invent their structures, strategies and old way of doing things. This will also assist them in aligning individual knowledge creation goals with organisational knowledge creation goals, as the organisation plays a critical role in mobilising tacit knowledge held by individuals.

The organisation is responsible for providing the direction and stimulus for knowledge creation, such as the correct time and space in order to set in motion the "spiral of knowledge" creation through socialisation, combination, externalisation, and internalisation (Nonaka, 1994: 28). The organisation also needs to manage the process of knowledge update (Dalkir & Jenkins, 2004),

where new knowledge is created based on on-going experience in a specific domain and then using the new knowledge in combination with the existing knowledge to come up with updated knowledge for knowledge sharing.

As the diagram (Figure 2.10) below depicts, knowledge can also be created through teamwork. When the job is completed, the team compares the experience it has had initially (when starting the job) to the outcome (successful/disappointing). This comparison translates experience into knowledge. While performing the same job in future, the team can take corrective steps and/or modify the actions based on the new knowledge they have acquired. Over time, experience usually leads to expertise, where one team (or individual) can be known for handling a complex problem very well. This knowledge can be transferred to others in a reusable format.

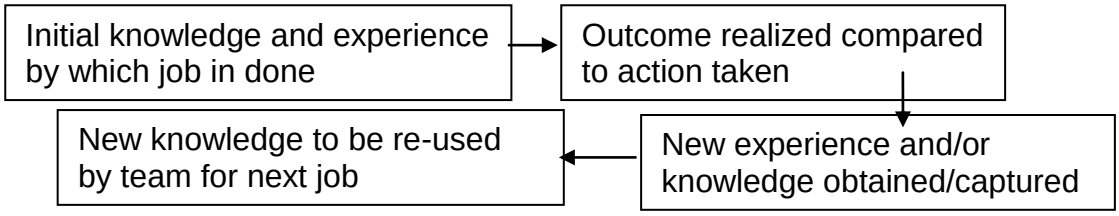


Figure 2.10: Knowledge creation through teamwork (adapted from McDermott, 1999: 32)

In view of the discussions above regarding the different knowledge creation theories, it is apparent that enough attention must be given to tacit, explicit, group and individual knowledge, and should be managed accordingly. McDermott (1999: 33) summarizes his analysis of corporate culture by stating that competitive advantage will be created by building a corporate culture where knowledge creation is well managed. In view of the above statement and the perspective gained by the different knowledge creation models, it is apparent that these creative routines will lead to competitive advantage for the organisation that will be hard to imitate by the competition. It therefore will be of value to take

a further look at systems that may be implemented to document the current and created knowledge in order to leverage this into a competitive advantage.

In fast-moving sectors it is the new enterprises with growth potential that are often the most innovative, forcing established enterprises to respond to the change by becoming more innovative themselves. The creation and diffusion of knowledge have become important factors in competitiveness. In an organisational context, knowledge is the sum of what is known and resides in the intelligence and the competence of people. Creating new knowledge will lead to sustainable competitive advantage for the organisation as figure 2.11 depicts.

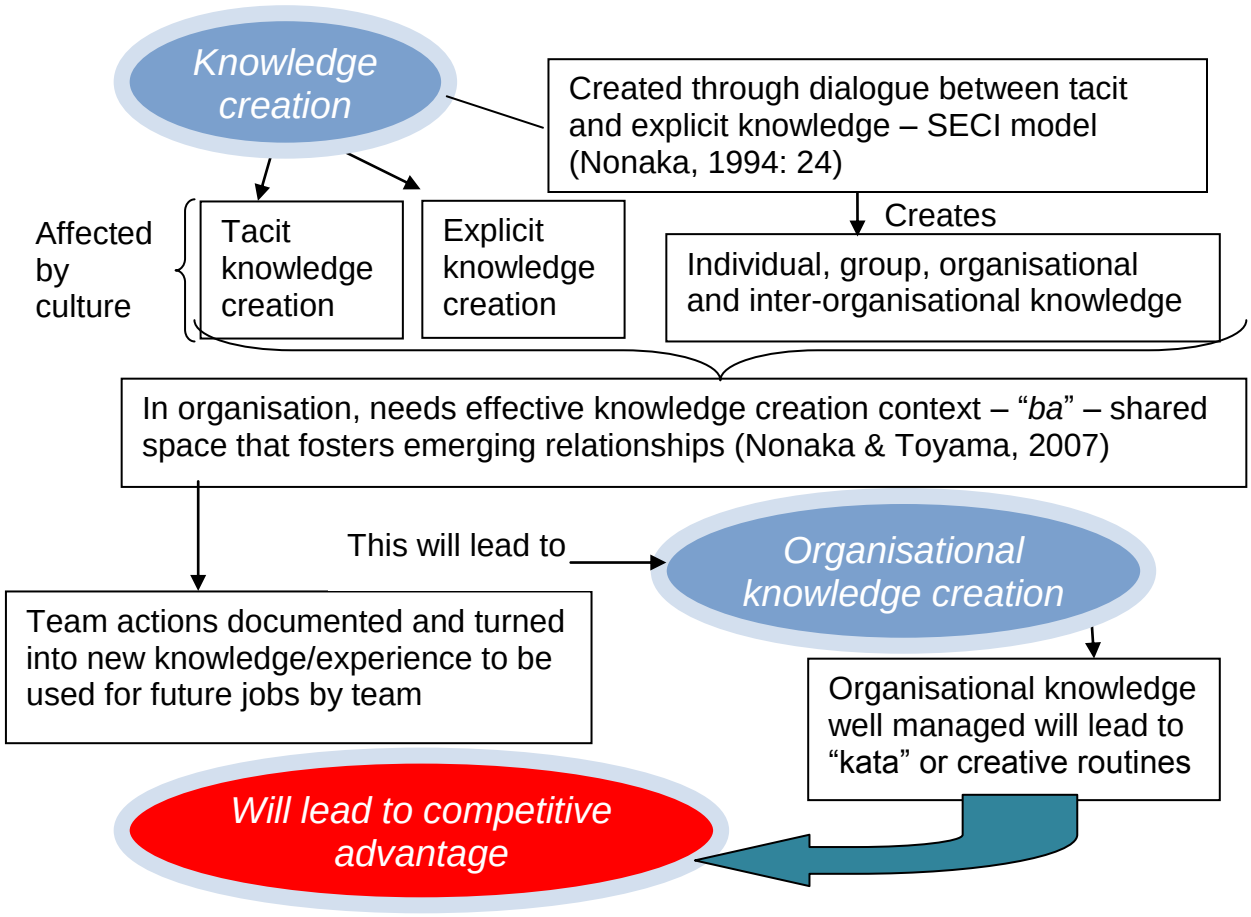


Figure 2.11: Knowledge creation leading to competitive advantage

Organisations with a strong strategic focus on knowledge will also become more and more innovative and attain a competitive advantage through facilitating knowledge development. The diagram above (Figure 2.11) depicts a synthesis of the different knowledge creation models and how knowledge creation can lead to competitive advantage.

2.4.3 Knowledge management

Knowledge management is the process by which strategies are designed to identify, capture, structure, value, provide leverage and share an organisation's intellectual assets. This is done in order to enhance the organisation's performance and competitiveness. According to Dalkir and Jenkins (2004), knowledge management is based on two critical activities. The first is to capture, document and record individual explicit and tacit knowledge. The second activity has to do with the distribution of the captured knowledge to the rest of the organisation.

Khanyile (2009: 12) identified four stages of effective knowledge management. The first stage of effective knowledge management is identifying knowledge, where it is important that the correct knowledge and the people who possess this knowledge are identified. It is also crucial during the first stage that the knowledge gap is identified in order to identify the correct knowledge to fill this gap. The second stage is where the knowledge needed is extracted from the person who possesses it, and this new knowledge is then captured and recorded. During the third stage of knowledge management, the captured knowledge is then tailored to the objective management wants to achieve through this new knowledge. By tailoring the knowledge, management is building competencies for its team members. The last stage of knowledge management entails the management of innovation, and this is done by managing the way in which the new knowledge that has been acquired, will be implemented and measured in the workplace.

Khanyile (2009: 13) adds that for knowledge management to succeed there should be a specific way of doing that is entrenched in organisational processes and systems. There are important processes that should form part of the organisation's knowledge management strategies. These include knowledge evaluation, knowledge processing, knowledge implementation and knowledge feedback. Knowledge evaluation is where the knowledge captured is evaluated for its worth and usefulness in achieving the organisations' goals. Knowledge processing involves the techniques to obtain, store, process and distribute new knowledge and information. Knowledge implementation is when one extracts meaning from information and new knowledge so that one can decide where best to apply the new knowledge. The last alignment between business and knowledge management strategies is knowledge feedback. Lessons learned from feedback can be stored to help others facing similar problems (Khanyile, 2009: 15).

The objective of knowledge management (Figure 2.12) for most companies is to improve business processes, as well as improve business performance through capturing and distributing the knowledge through the organisation. Common company departments for knowledge management systems include human resources, business strategy and information technology.

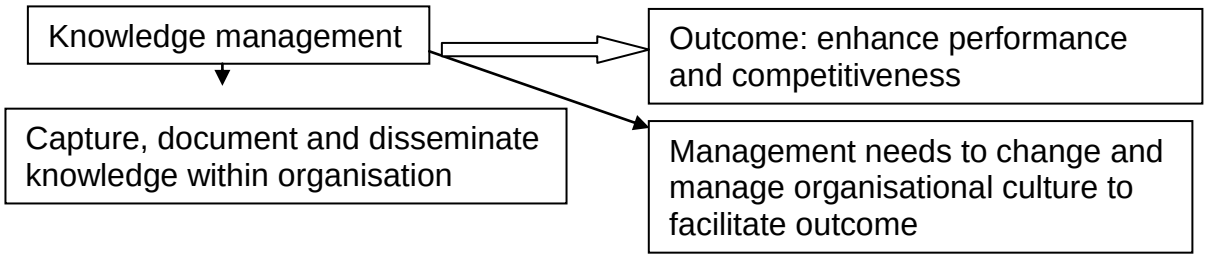


Figure 2.12: Knowledge management

There are numerous challenges in knowledge management systems development. The most common challenge, according to Khanyile (2009: 18), is

changing the organisational culture as this involves changing people's attitudes and behaviours. It will be important to have the buy-in of the team when it comes to knowledge sharing in order for the team to understand the value of knowledge sharing, as well as to let the team understand its responsibilities when it comes to knowledge sharing.

According to Hall (in Khanyile, 2009: 28), knowledge management writers overemphasize the explicit dimension of knowledge due to the fact that this type of knowledge is easier to capture and record. For explicit knowledge to be useful, it also needs to be organised in a structured way and this organisation of explicit knowledge is called codification. He adds that the codification process is heavily influenced by the tacit component of knowledge and that this tacit component of knowledge is also present in organisational culture. Organisations that focus too much on the explicit part of knowledge sometimes downplay the influence of organisational culture by limiting the human element of knowledge creation, and generally limiting the connection to the source of explicit knowledge (Khanyile, 2009: 22).

The above discussions now paved the way for our focus on tacit knowledge sharing and, in particular, the advantage that this particular type of knowledge holds for organisations. Teece, Pisano and Shuen (1997: 511) refer to the increasing advantage of companies which capitalise on the identification and sharing of tacit knowledge. More recent research by Bratianu and Orzea (2010: 28) in the field of knowledge sharing and transfer indicates that the process of sharing and transferring knowledge remains a challenging task and the challenges related to the transfer of tacit knowledge, in particular, are even more daunting. It is therefore apparent that extra attention needs to be given to the process of extrapolating tacit knowledge.

As mentioned earlier in the chapter, explicit or codified knowledge refers to knowledge that is transmittable in formal, systematic language and it is therefore

knowledge that has been or can be expressed, organised and stored in certain media and can be readily communicated to others. Capturing explicit knowledge is therefore not a problem and falls outside the scope of this study.

Capturing tacit knowledge is the difficult part and needs further investigation. Tacit knowledge cannot be easily transmitted to other team members and the optimisation of its full potential requires the involvement and cooperation of the person that possesses the knowledge (Lam, 2000: 487). In the organisational environment, tacit knowledge is defined as work-related, practical knowledge and can only be acquired through practical experience in the relevant context. Unlike the transfer of explicit knowledge, the transfer of tacit knowledge requires close interaction and trust among team members, as well as a shared understanding of the subject matter to be discussed. It is clear from the above discussion that tacit knowledge is difficult to transfer to another person by means of writing it down or verbalising it.

The problem is, however, that for a long time now organisations have given preference to the creation and management of explicit knowledge, but limited attention to tacit knowledge management. Sanchez (2004: 67) concludes that organisations that have not implemented systematic knowledge management approaches should in most cases begin with tacit knowledge management practices in order to achieve some initial organisational successes and build organisational confidence.

Reber (1989: 222) maintains that when a person learns something, the tacit base emerges first before the conscious, explicit clarification of the new learning emerges. After explicit clarification has emerged, the person will find it much easier to record and communicate the new learning to other team members. Reber (1989: 220) therefore asserts that people in the organisation know more than they are able to share, as it is difficult to express and share tacit knowledge.

It thus is clear that the extent of this literature review must broaden its scope toward tacit knowledge transfer and sharing, and the implication of this for creating new knowledge.

2.5 KNOWLEDGE TRANSFER AND SHARING

Knowledge transfer entails the transfer of knowledge from one source to another source, and is an integral part of an organisation's life. Knowledge transfer also represents the appropriate use of the transmitted knowledge. According to Sanchez (2004: 67), an organisation searching for a competitive advantage must set itself the goal of promoting knowledge sharing by facilitating teamwork and networking in its organisational structures.

Knowledge transfer can be done by team members working together, communicating, and learning by doing what they see other team members do. The organisation can also facilitate face-to-face discussions, as well as have mentoring programmes in order to stimulate tacit knowledge transfer. Knowledge can also be transferred through documents and databases, and the organisation can further stimulate knowledge transfer by embedding knowledge through procedures employees need to follow when doing certain daily activities.

According to Kane, Argote and Levine (2005: 56) two types of knowledge transfer can be distinguished. Explicit inter-team transfer allows a team that has done a job, to share its experience with another team working on a similar job. This will allow the second team to learn from the mistakes made by the first team and not repeat them. It will also assist the second team in building on the successes of the first team. Factors such as human relations and a negative organisational subculture (or unhealthy competition within the organisation) can make the explicit inter team transfer difficult at times (Kane *et al.*, 2005: 58).

Tacit knowledge transfer can be difficult, as it is difficult to tap into tacit knowledge, which is mostly found in complex, non-algorithmic projects. Often the knowledge that is to be transferred has to be modified in language and content in order to be usable by the receiving team.

Factors exist that encourage (or retard) knowledge transfer. Personality is one such factor in the case of knowledge sharing, where extrovert people, for example, usually possess self-confidence, feel secure, and tend to share experiences more readily than the introvert, self-centred and security-conscious people (Kane *et al.,* 2005: 60).

Kane *et al.* (2005: 62) further add that knowledge creation is culturally influenced by patterns that are linked to language and communication. Knowledge creation is also linked to culture, and many authors (such as Sanchez, 2000b) have written about knowledge and culture and how culture influences knowledge creation. Culture affects the sharing and transfer of knowledge as well as the quality of the knowledge transferred. Culture impacts the competitiveness of organisations, as knowledge transfer that ignores cultural differences has shown limited success. The influence of culture on knowledge sharing will be discussed in more detail in Chapter 3.

2.5.1 The sharing and capturing of tacit knowledge

Davenport and Prusak (1998: 53) estimate that only 15–20% of valuable knowledge has typically been captured, codified, or rendered tangible and concrete in some fashion in organisations. This is in the form of books, databases, audio or video recordings, graphs and pictures, and so forth. The other knowledge is in tacit forms which are, according to Goffin and Koners (2011: 304), those that cannot be codified, but can only be transmitted via training or gained through personal experience.

A chief practice in the technological development of companies serious about knowledge development is the codification of tacit knowledge into explicit, programmed operations. This will lead to higher productivity and effectiveness of employees as well as being able to operate at a lower cost (Goffin & Koners, 2011: 306). Codification of tacit knowledge happens when knowledge is recorded in such a fashion that a team member learns from the recorded experiences of other team members, and then applies that newly acquired knowledge in the field. This is done by acting on the new knowledge and testing it in a similar situation encountered in the field of work.

The principle of codifying tacit knowledge into explicit, programmed operations therefore involves mechanically replicating the performance of persons who possess relevant tacit knowledge. It is, however, important to bear in mind that for a new employee mimicking the tacit knowledge of another employee, the ability of the skilled practitioner to innovate and adapt according to unforeseen circumstances, based on the tacit "feel" of the situation, is often lost, as the new employee does not immediately possess this skill (Goffin & Koners, 2011: 310). Collins (2011: 40) maintains that the management of this process is important and new employees need guidance as to when and where to apply the new knowledge. An easy exercise, such as role play in a safe environment, will assist new employees in honing the newly acquired knowledge so that it can be effectively used in the field.

The conflicts demonstrated in the previous two paragraphs are reflected in Nonaka's model of organisational knowledge creation, in which he proposes that tacit knowledge can be converted to explicit knowledge (Nonaka *et al.*, 2006: 1193). Tacit knowledge is presented variously as un-codifiable ("tacit aspects of knowledge are those that cannot be codified") and codifiable ("transforming tacit knowledge into explicit knowledge is known as codification").

Nonaka, Toyama and Voelpel's view may be contrasted with Polanyi's original view of 'tacit knowing'. Polanyi (1969: 12) believes that while tacit knowledge may be required for the acquisition of skills, as the argument goes, it no longer is necessary for the practice of those skills once the novice becomes an expert in exercising them. Polanyi (1969: 14) is of the view that when skill is acquired, we acquire a corresponding understanding that defines the actions that need to be taken.

Collins (2011: 42), however, differs from this view and states that new skills acquired through learning from the experience of others can only be learned through personal experimentation. He noted the example of the Bessemer steel process. Bessemer sold a patent for his advanced steel manufacturing process and was sued by the purchasers who could not get it to work. In the end Bessemer set up his own steel company, because he knew how to do it, even though he could not convey the message to his patent users. Bessemer's company became one of the largest in the world and changed the face of steel manufacturing. Tacit knowledge is not easily shared. Although it is used by all people, it is not necessarily easily articulated. It consists of beliefs, ideals, values, schemata and mental models which are deeply ingrained in us and which is often taken for granted. While difficult to articulate, this cognitive dimension of tacit knowledge shapes the way the world is perceived.

With tacit knowledge, people are not often aware of the knowledge they possess or how it can be valuable to others. Effective sharing and transfer of tacit knowledge generally require extensive personal contact, regular interaction and trust (Von Krogh, Ichijo and Nonaka, 2000). According to Nonaka *et al.* (2006: 1183), tacit knowledge to some extent is captured when the knowledge holder joins a network or a community of practice. In this community of practice, tacit knowledge can only be revealed through practice in a particular context (community of practice) and transmitted through social networks. According to Wenger (1998: 225), there are certain approaches such as socialisation and

interaction between employees for capturing tacit knowledge from groups and individuals. Von Krogh *et al.* (2000: 165) list three major approaches to capturing tacit knowledge. They are interviewing experts, learning by being told and learning by observation.

Interviewing experts can be done in the form of structured interviewing or by recording organisational stories. Structured interviewing of experts in a particular subject is the most commonly used technique to capture relevant, tacit knowledge. An example of a structured interview would be an exit interview. Learning by being told can be done by interviewing or by task analysis. Either way, an expert teaches the novice the processes of a task. Task analysis is the process of determining the actual task or policy by breaking it down and analysing what needs to be done in a step-by-step manner to complete the task.

Learning by observation can be done by presenting the expert with a sample problem, scenario, or case study and then observing the process used to solve the problem. It is important to note that all of these approaches should be recorded in order to transfer the tacit knowledge into reusable explicit knowledge. This recording part of studying tacit knowledge is very important as it will facilitate the transfer to explicit knowledge.

As discussed earlier in the chapter, Professor Ikujiro Nonaka (in Nonaka and Takeuchi 1995: 25) has proposed the SECI (Socialisation, Externalisation, Combination, Internalisation) model, one of the most widely cited theories in knowledge management, to present the spiralling knowledge processes of interaction between explicit knowledge and tacit knowledge (Nonaka and Takeuchi 1995: 26). In view of the above discussions, the advantage of companies capitalising on the identification and sharing of tacit knowledge is massive and crucial for survival in a competitive environment. It is therefore apparent from the above that effective communication between individuals is

crucial for the success of knowledge transfer and the competitive advantage that companies require so critically.

2.5.2 Measuring knowledge sharing

Productivity is a key determinant for the success of any organisation, especially knowledge-intensive organisations. Traditional productivity measures are based on measuring the quantities of outputs (i.e. products and services) produced, as well as the inputs used in the production process. However, these quantitative methods cannot usually be applied to knowledge work, because of the qualitative nature of the output of knowledge work. Therefore, there is a need for a new measurement method that knowledge-intensive organisations could use in managing their productivity (Lindkvist, 2005: 1189).

Companies use skills and aptitude tests, universities give examinations and require theses, but how do you measure the effectiveness of shared tacit knowledge? According to Wagner *et al.* (1999: 155), companies should identify and measure tacit knowledge because it may be a much better indicator of career potential than many of the current psychological assessment tools. Most of these tests are designed to measure personality, intellectual capability, behaviours, or personal values. They are not designed to identify or measure tacit knowledge.

Another reason for measuring tacit knowledge, according to Wagner *et al.* (1999: 167), is that we will be more confident in our firm's recruits from other industries and our foreign managers and salespeople. One can deploy cross-industry and cross-cultural teams with less worry if one is certain that the managers, engineers and salespeople are able to share their tacit knowledge about succeeding in their local units.

In South Africa there is the added influence of cultural diversity (Finestone & Snyman, 2006: 135). Traditional psychological tests are less helpful for measuring tacit knowledge, since they are more likely to produce biased results in a multicultural workforce because of differences in cultural values and language (Wagner *et al.*, 1999: 169). Wagner, Sujan and Roshotte add that the companies that measure tacit knowledge will see the advantages of increased productivity (Wagner *et al.*, 1999: 169). Tacit knowledge is inherently based on how to get things done. As the senior levels of management in companies approach retirement age and firms increasingly turn to importing foreign talent, there is an urgent need to find and capture the knowledge of the best performers before they leave the company (Wagner, *et al.*, 1999: 170). This should be done in order to sustain the company's competitive advantages.

The above discussions have important implications for managers who wish to implement formal knowledge management initiatives within an international subsidiary, or a business that consists of diverse cultures, such as the South African business environment. There will be numerous barriers that need to be addressed before tacit knowledge sharing can be translated into productivity and competitive advantage for the organisation. The extent of these barriers will be discussed in Chapter 3.

Lindkvist (2005: 1190) states that most attempts to measure the quality of knowledge sharing will be subjective. Although the inputs and the outputs of knowledge work can be defined, it is often rather difficult to measure them in quantities. Therefore the need is to approach these inputs and outputs through other, indirect measures. Lindkvist adds that by managing the process of knowledge sharing closely one can increase the effectiveness of the process. It is therefore apparent that, as no agreed-upon measurement exists for tacit knowledge sharing; management can focus on optimising the enablers and alleviating the barriers to tacit knowledge sharing and, by doing this, promote the effectiveness of the knowledge shared.

2.5.3 Knowledge economy

According to Bontis, Dragonetti, Jacobsen and Roos (1999: 401) knowledge economy is productivity created by creating, evaluating, and trading knowledge. In a knowledge economy, labour costs become progressively less important and traditional economic concepts, such as scarcity of resources and economies of scale, cease to apply. According to Khanyile (2009: 29), the balance between knowledge and resources has shifted so far towards knowledge that it has become perhaps the most important factor determining the standard of living, more than land, tools and labour.

Lindkvist (2005: 1200) points out that knowledge and innovation are crucial for sustainable creation of wealth and driving competitiveness and efficiency in what people do. Benbya and Belbany (2005: 208) add that knowledge creation is a forerunner to innovation, which is a driver of competitiveness. It has therefore become in the interest of organisations to provide enabling conditions for knowledge creation. Possible enabling conditions will be explored in the next chapter. It will be of value to look at the enablers of and the barriers to tacit knowledge sharing in the context of the sales force of the South African pharmaceutical industry, and this was done by means of a qualitative and quantitative study.

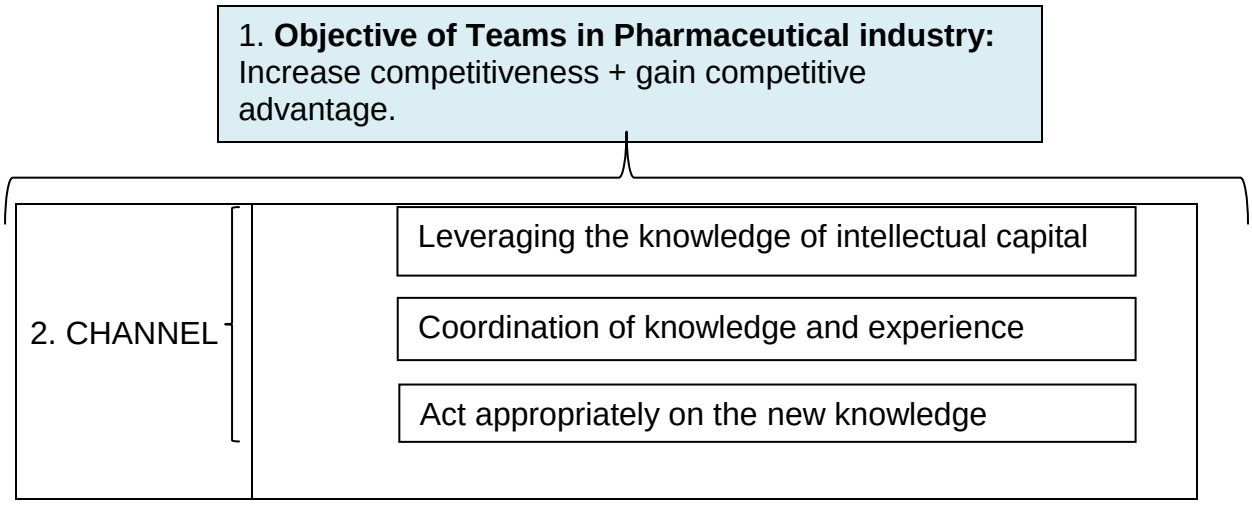
According to Khanyile (2009: 30), the way things are done in an organisation can be influenced by the organisational culture that exists and this will be explored further in the next chapter. It is further apparent that knowledge transfer is an integral part of organisational life and that is where future competitive advantage for organisations lies. Tacit knowledge can only be transmitted via training or gained through personal experience and might lead to higher productivity and effectiveness of employees. The value of knowledge, and especially tacit

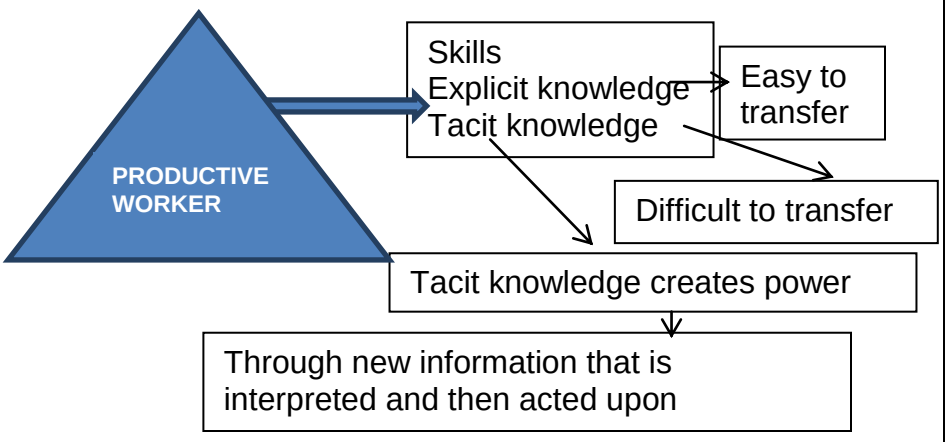
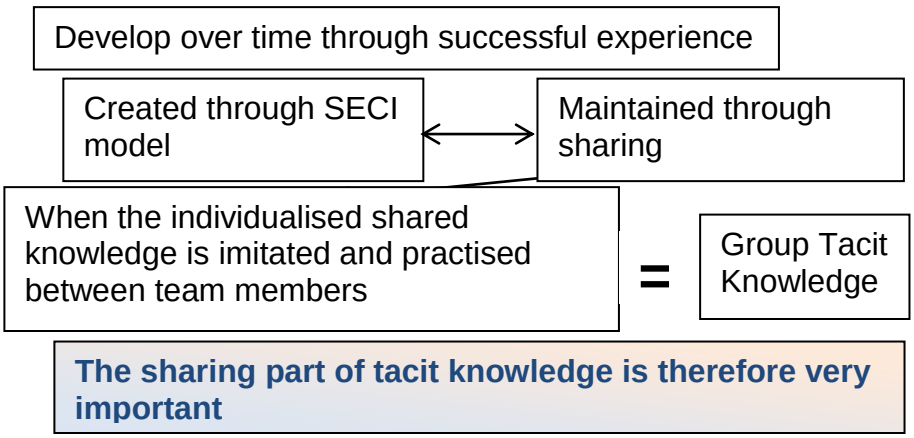
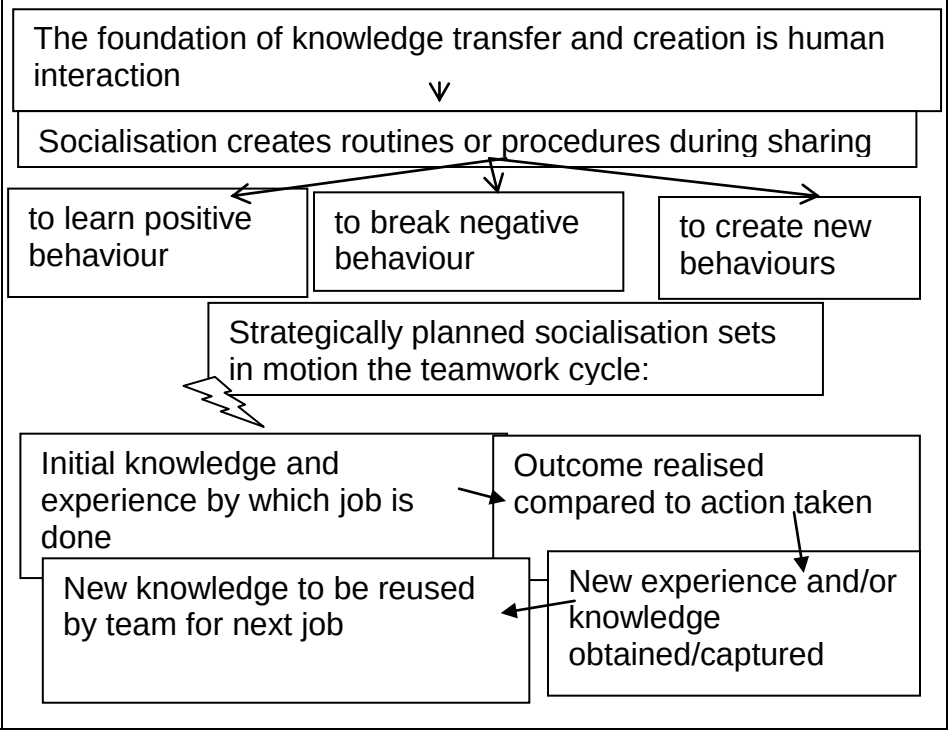
knowledge, for the sales force of the pharmaceutical industry will be explored in depth in the next chapter as well as possible barriers and enablers.

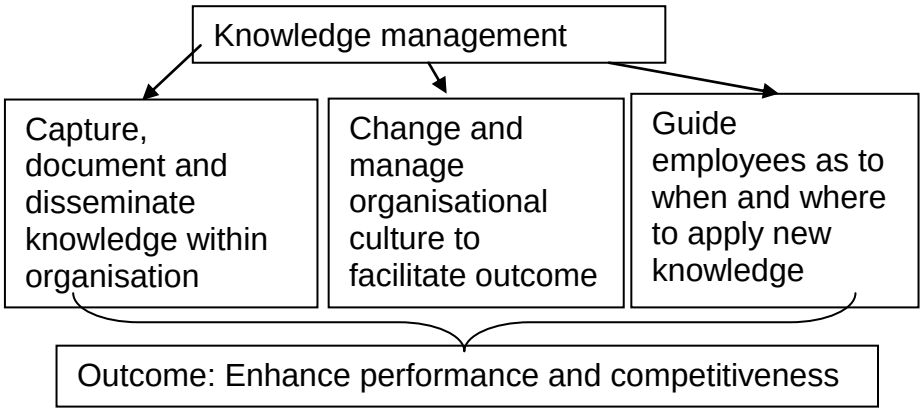
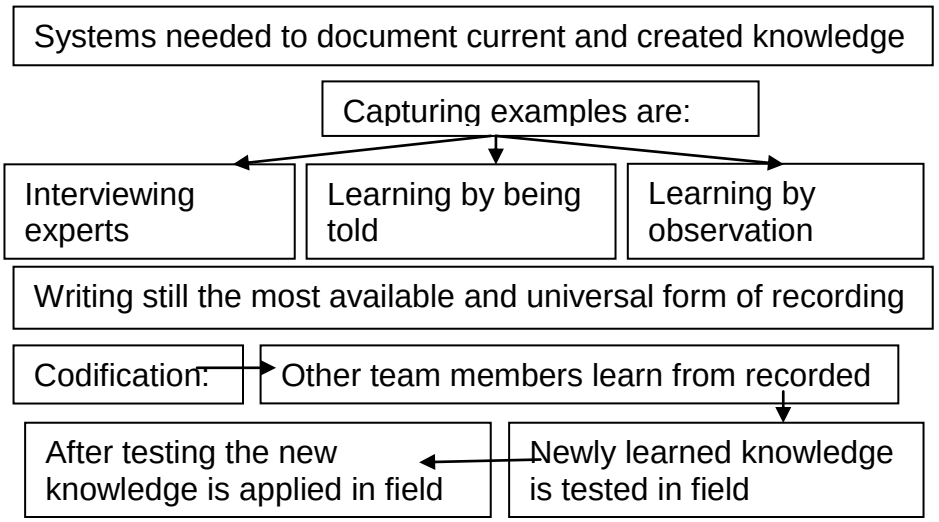
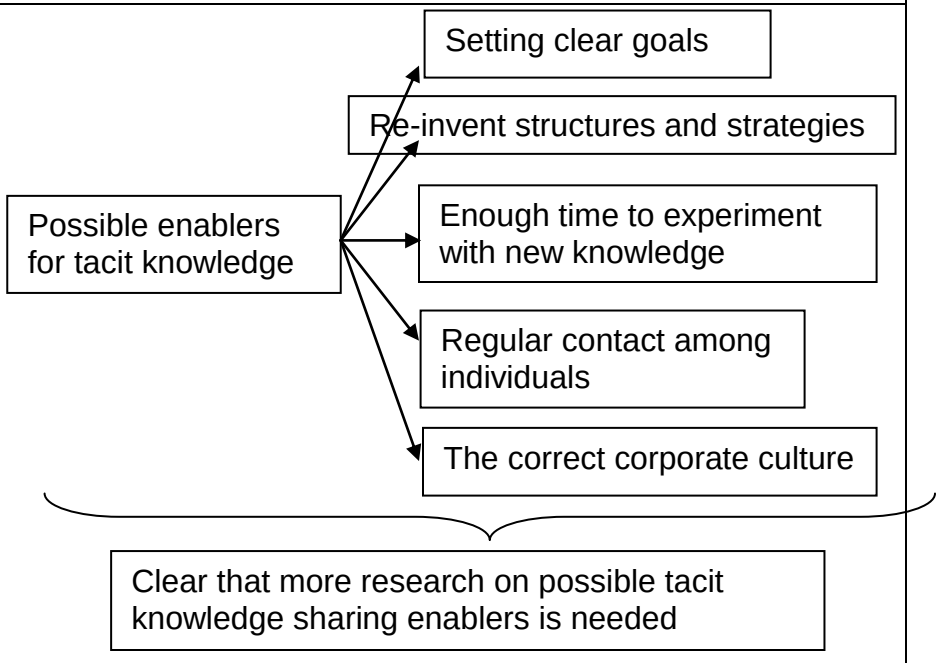
2.6 PROPOSED TACIT KNOWLEDGE SHARING MODEL (INCEPTION PHASE)

This chapter has provided a meta-theoretical perspective on knowledge, and in particular tacit knowledge, as a domain to be acknowledged in human resource management. It was based on a grounding perspective of numerous knowledge factors such as knowledge creation, knowledge management and knowledge economy, as well as theories of knowledge creation and systems to manage knowledge. All these factors in knowledge and tacit knowledge sharing were explored by means of a profound literature review in order to conceptualise tacit knowledge by identifying constructs underpinning tacit knowledge.

In view of the chapter discussed above, a new model for sharing tacit knowledge is proposed for the sales force of the South African pharmaceutical industry. The proposed model below serves as the inception phase where every chapter in the report will further build on this model. Each section of the model will be discussed and then expanded on in the chapters that will follow.



3. WHAT PART OF KNOWLEDGE TO TARGET	
4. Tacit knowledge creation	
5. Importance of socialisation in terms of teamwork and creative routines	

6. Knowledge management	
7. Capture, record and codify tacit knowledge	
8. Enablers of tacit knowledge sharing	

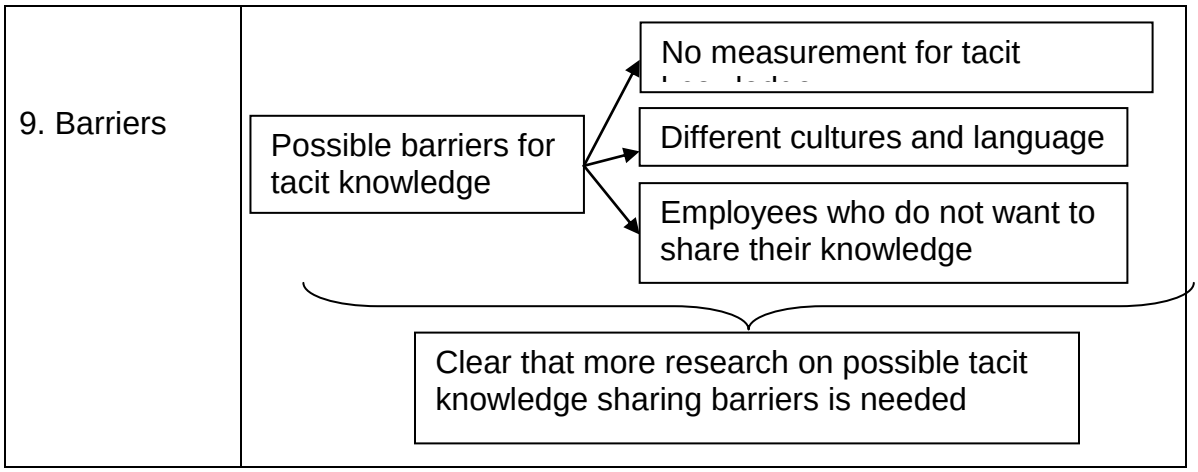


Figure 2.13: Proposed tacit sharing model

2.6.1 Brief explanation of the components of Figure 2.13:

Section 1: The main objective of sales force teams in the pharmaceutical industry is to increase competitiveness and gain a competitive advantage.

Section 2: For nr. 1 to happen, organisations need to leverage the knowledge of their intellectual capital as well as coordinate the knowledge and experience available in the organisation. If this knowledge can be extrapolated, new knowledge can be created which will enable the organisation to act with the new knowledge. Knowledge needs to be shared as well as acted upon to be of value.

Section 3: It will be important to target the correct part of knowledge and understand where possible avenues are to capitalise on in order to achieve competitive advantage. The productive worker uses skills, tacit knowledge and explicit knowledge to get the work done and be productive. Tacit knowledge is hard to transfer and this is where possibilities lie for competitive advantage. Due to tacit knowledge being so difficult to share and transfer, companies have not optimally capitalised on the advantages of sharing tacit knowledge.

Tacit knowledge will create power and increase worker productivity if it is shared and acted upon.

Section 4: Tacit knowledge develops over time through successful experience. Even though it is created through the normal cycles of the SECI model, it is maintained through sharing.

Section 5: Human interaction is vitally important for tacit knowledge sharing. Socialisation therefore forms the foundation of tacit knowledge sharing and management therefore needs to create the correct environment and space to optimally promote the sharing of knowledge. Certain procedures or creative routines develop during socialisation and these have a positive effect of the behaviour required for effective tacit knowledge sharing. During these routines, positive behaviour is created, negative behaviour is broken and new, desired behaviour is created. Teamwork is also fostered during socialisation. Individuals share knowledge and then other members of the team act on what they hear. Teams will then share how they have applied this new knowledge and compare their experiences, so that they can improve their actions in future.

Section 6: The management of tacit knowledge is important as this will enhance the performance and competitiveness of employees. The capturing, documentation and dissemination of knowledge within the organisation need to be well managed. Managers further must also facilitate the creation of a knowledge-sharing culture as well as guide new employees as to where and when their newly acquired knowledge is to be applied and acted upon.

Section 7: Capturing of tacit knowledge can be done by interviewing experts, learning by being told, or learning through observation. The recording of knowledge is still mostly done in the written form. Codification happens when recorded knowledge is used in the field by new members, thus it is tested and scrutinised.

Section 8: It is now clear that there are factors that can enhance or enable the sharing of tacit knowledge. Possible enabling factors for tacit knowledge sharing are clear goal setting by management, and revisiting structures in the organisation to ensure that they support sharing and create socialisation opportunities. More research on possible tacit knowledge sharing enablers is required. This will come under discussion in the next chapter.

Section 9: There may also be barriers that stand in the way of effective tacit knowledge sharing, such as language, culture and the willingness to share. It is also important to further investigate the possible barriers and this will be explored in the next chapter, too.

2.7 CONCLUSION

According to Gupta and Govindarajan (2000: 73), highly complex, tacit knowledge can be a source of sustainable, competitive advantage in organisations. Complex, tacit knowledge is difficult to express and is often context specific, which provides the source of potential sustainability. However, due to its tacit quality, knowledge derived from the process of joint decisions is difficult to share with others outside the team, and may be difficult to study using research tools available (Nonaka and Takeuchi, 1995: 26). Tacit knowledge is important, because expertise rests on it, because it is the source of competitive advantage, and it is also critical in daily management activities. Tacit knowledge could be an attribute of both individuals and of groups. A key challenge for pharmaceutical companies in South Africa will be to determine whether it is possible to manage tacit knowledge, and how. The above question necessitates further research and will be addressed in Chapter 3.

Knowledge-intensive companies, such as pharmaceutical companies, view sales force members to be highly valued members of the organisation. At the same time, critics suggest (in Peet, 2011: 45) that these same workers are being

manipulated and even “engineered” to engage in such exceptional performance that they suffer from burn-out and are deprived of family life. Managers interested in leveraging worker knowledge by transferring it are faced with the challenge of detaching knowledge from some people and attaching it to others.

Conflict between managers and co-workers might occur when workers are likely to be better rewarded for possessing knowledge that constitutes competitive advantage, than they are for sharing it. The need to investigate barriers to and stimulating factors for the success of tacit knowledge sharing becomes more apparent. Managers who wish to implement formal knowledge management initiatives within an international subsidiary, or a business that comprises diverse cultures, such as in the South African business environment, need to take note of these barriers as well as stimulating factors. Organisational culture and its influence also become a question and will be explored in the next chapter. It is apparent that knowledge transfer and knowledge sharing are an integral part of organisational life. The value of tacit knowledge for the sales force of the pharmaceutical industry will be explored in depth in Chapter 3, as well as possible barriers and enablers.

CHAPTER 3

TACIT KNOWLEDGE SHARING AND PRODUCTIVITY: A CRITICAL REFLECTION ON THE PHARMACEUTICAL INDUSTRY

3.1 INTRODUCTION

One of the burning questions that spurred this research was: How will tacit knowledge sharing influence employee productivity? Ensuing from this the need arose to investigate management actions that might improve tacit knowledge sharing or create barriers, as well as the possible influence of cultural diversity on tacit knowledge sharing. As this study was focused on developing a management model to optimise tacit knowledge sharing as a possible avenue for increasing employee productivity in the South African pharmaceutical industry, this chapter will focus on exploring tacit knowledge sharing within the framework of knowledge management in the organisation and attention will be given to the influence of tacit knowledge sharing on employee productivity. The investigation reported on here, was based on a grounding perspective of the pharmaceutical industry in South Africa, as well as what employee productivity entails in this industry as it is important to define the sales force as knowledge workers and identify how they differ from your normal blue-collar worker.

The investigation was then extended to the influence that tacit knowledge sharing might have on employee productivity and a grounding perspective of management models for tacit knowledge was investigated in order to unlock corporate knowledge, as well as barriers in the way of and enablers of tacit knowledge sharing. The investigation was further extended to the multi-cultural South African workforce and the influence of culture on knowledge sharing in an

organisation. All these factors were explored by means of a profound literature review.

This chapter therefore addresses the following problem questions:

- How does tacit knowledge sharing influence employee productivity?
- What management actions can improve tacit knowledge sharing (or create barriers)?
- How does the cultural diversity of the South African workforce influence tacit knowledge sharing in companies, and particularly in the pharmaceutical industry?

3.2 KNOWLEDGE MANAGEMENT

The sales force of any organisation is a critical component in the overall success of that company's attainment of goals and objectives. According to Fenton and Albers (2007: 142) knowledge management is a key factor in this success and, if implemented correctly, can act as catalyst in efforts to achieve synergy in the endeavours of a sales force. Synergising the efforts of the sales force will lead to many positive outcomes, including a more effective sales force, an overall smarter organisation, and employees who have a high sense of moral because of their involvement in the decision-making process (Fenton & Albers, 2007: 142).

Knowledge management technologies are just starting to make their way into the pharmaceutical industry, and according to research done by Britt (2007: 23), there are only a few real enterprise-wide knowledge management activities. Improving the productivity of knowledge workers is one of the major challenges for the present day business world. According to Kane (2005: 658), an effective knowledge management programme should help a company to foster innovation by encouraging the free flow of ideas and thoughts. Productivity is a key determinant for the success of any organisation (Lindkvist, 2005: 1189). This

holds true also in the case of knowledge-intensive organisations such as the companies operating in the pharmaceutical industry in South Africa.

Allowing workers in the pharmaceutical industry to concentrate on enhancing their core competences as a group can also increase productivity. Teamwork is often characteristic of knowledge work and is based on knowledge sharing (Kane, Argote & Levine, 2005: 61). Every team should consist of people who, together, possess all the qualities needed (Pelled, Eisenhardt & Xin, 1999: 26-27), and who can use their competences to complement one another. The primary task of managers is the conversion of tacit human capital into explicit, structural capital (Davenport & Hall, 2002: 209). This is done through knowledge sharing, but it is not always an easy process for organisations to encourage as there are inherent risks and there are barriers. In addition, there may be problems in an organisation's information and knowledge processes that impact on the quality of its knowledge sharing (Davenport & Hall, 2002: 209).

There are numerous factors to consider in the process of optimising tacit knowledge sharing and these factors will be considered in this chapter.

3.3 THE PHARMACEUTICAL INDUSTRY

The pharmaceutical industry develops, produces and markets drugs licensed for use as medications. Pharmaceutical companies are allowed to deal in generic and/or brand medications and medical devices (Landefeld & Steinman, 2009: 103). They are subject to a variety of laws and regulations regarding the patenting, testing and marketing of the drugs, as well as ensuring their safety and efficacy.

Pharmaceutical companies commonly spend a large amount on advertising and marketing. In the US (United States [of America]), drug companies spend $19 billion a year on promotions (Moynihan, 2003: 1193). Advertising is common in

healthcare journals and mainstream media routes and, in some countries, notably the US and South Africa, organisations are allowed to advertise directly to the general public (Moynihan, 2003: 1194). Many people do not realise the contribution that pharmaceutical companies make to the welfare of the people in South Africa. Not only do their medicines save lives, improve health, and prolong and enhance the quality of life, but medicines also reduce overall healthcare costs by speeding up recovery times and often reduce the need for surgery and hospitalisation.

3.3.1 The South African pharmaceutical industry

Apart from providing health-promoting medicines, South Africa's pharmaceutical industry also makes a substantial investment in the Southern African region by investing in healthcare, ensuring continued access to new medicines and contributing to the local economy through employment, taxes, skills development and technology transfer. Investment by local pharmaceutical companies cannot be valued highly enough and the Pharmaceutical Industry Association of South Africa (PIASA) estimates its financial contribution to the local economy to be at least R12 billion per annum, taking into account local expenditure, salaries, rentals and local procurement (PIASA, 2011). According to the database of PIASA and SAMED (South African Medical Device Industry Association), there are approximately 135 companies operating in the pharmaceutical and medical device industry in South Africa (PIASA, 2011; SAMED, 2011).

South Africa has one of the highest rates of HIV and AIDS infections in the world, equivalent to just over 10% of the entire population. As a result, the market for antiretroviral (ARV) drugs looks set to grow, particularly as government is looking for ways to increase the supply of these drugs via the public system. The government has also proposed a National Health Insurance (NHI) scheme, which is aimed at providing healthcare for all South Africans. The NHI Green Paper was launched in 2011, and the White Paper is expected to be launched in 2013

(South Africa, Minister of Health, 2011). The design of an NHI system and the effective management of health financing reforms offer wide-ranging opportunities for containing costs and improving efficiencies. The NHI will require compulsory contributions from all citizens, with the exception of the poor and unemployed (Padarath & English, 2011). The South African pharmaceutical market is set to grow at a constant rate over the coming years. According to industry estimates, generic drugs have overtaken branded pharmaceuticals in terms of market volume and this trend is expected to continue, taking into account that the demand for cheaper essential drugs, including antiretroviral drugs, is set to grow (PIASA, 2011; SAMED, 2011). Local manufacturers, notably Aspen Pharmacare and Adcock Ingram, almost exclusively produce generics. In May 2011, Adcock Ingram announced its acquisition of a bio-similar insulin distributor, which would give it the opportunity to become a significant player in the South African diabetes market. In January 2011, Aspen completed the acquisition of the pharmaceutical division of an Australian company (PIASA, 2011; SAMED, 2011).

The competition in the South African pharmaceutical industry is intense and the goal of any sales organisation is to sell products. Without sales, resources are not available to fund the research and development (R&D) projects that bring new products to the market, which ultimately enhance the lives of consumers (Fenton & Albers, 2007: 142). With a continued increase in competition in the pharmaceutical industry and the rapid decrease in the average duration of tenure a sales representative has with one organisation, companies need to ensure that they maximise their impact on every sales call and capture the knowledge of the sales force in order to leverage this knowledge into a competitive advantage (Fenton & Albers, 2007: 143). Pharmaceutical companies generally employ sales people (often called 'drug reps' or, an older term, 'detail reps') to market directly and personally to physicians and other healthcare providers (Landefeld & Steinman, 2009: 103). A pharmaceutical representative often will try to visit a given physician or hospital unit every few weeks.

Private insurance through medical aids, or public health bodies decide which drugs to pay for, and restrict the drugs that may be prescribed through the use of formularies. Public and private insurers restrict the brands, types and number of drugs that they will cover. Not only can the insurer affect drug sales by including or excluding a particular drug from a formulary, they can affect sales by ranking products or placing bureaucratic hurdles in the way of prescribing certain drugs as well (Landefeld & Steinman, 2009: 104). When looking at the sales and marketing side of the pharmaceutical industry, pharmaceutical marketing is the business of advertising or otherwise promoting the sale of pharmaceuticals, drugs or medical devises. Even though many countries have measures in place to limit advertising by pharmaceutical companies, research done by Landefeld and Steinman (2009: 106) indicate that pharmaceutical company spending on marketing far exceeds that spent on research. This is also the case in South Africa where the bulk of salaries, training and development is spent of the sales side of the business.

Representatives often have a call list of about 200-300 physicians with 120-180 targets that should be visited in a 1-2 or 3-week cycle. Medical devise and consumable representatives call on units/divisions in hospitals and work with unit managers, pharmacies, nurses and technologists. The number of pharmaceutical sales representatives (reps) has been shrinking between 2008 and 2010, an estimated 30% industry-wide reduction has occurred (Moynihan, 2003: 1195). Because of the large size of the pharmaceutical sales force, the management and measurement of effectiveness of the sales force are significant business challenges (Landefeld & Steinman, 2009: 106). Management tasks are usually broken down into the areas of physician targeting, sales force size and structure, sales force optimisation, call planning, and sales forces' effectiveness.

A few pharmaceutical companies have realised that training sales representatives in high science alone is not enough, especially when most

products are similar in quality. Thus, training sales representatives in relationship selling techniques, in addition to medical science and product knowledge, can make a difference in sales force effectiveness. Specialist physicians are relying more and more on specialty sales reps for product information, because they are more knowledgeable than primary care reps (Landefeld & Steinman, 2009: 103). Physicians are perhaps the most important component in sales. They write the prescriptions that determine which drugs will be used by people. Influencing the physician is the key to pharmaceutical sales success. Historically, this was done by a large pharmaceutical sales force. The largest companies had tens of thousands of representatives around the world. Sales representatives called upon physicians regularly, providing clinical information, approved journal articles, and issued free drug samples. This is still the approach today; however, economic pressures on the industry are causing pharmaceutical companies to rethink the traditional sales process to physicians.

According to Britt (2007: 30), the days of armies of sales reps in the field, driving revenues, are over. It will no longer be about numbers and volume as now the focus will shift to productivity and performance of the sales staff that remains. Even though certain organisations have downsized their sales forces, the sales force of any organisation still remains a critical component to the overall success of that company's goals and objectives.

As mentioned, knowledge management needs to be implemented correctly and will then lead to positives such as a more effective sales force (Fenton & Albers, 2007: 143). In view of the above, it is clear that the sales force of a pharmaceutical company is crucial in the daily operations and the survival of the company and it will therefore be of utmost importance to identify what makes the sales force tick and what will improve productivity and effectiveness in the field, as Figure 3.1 depicts.

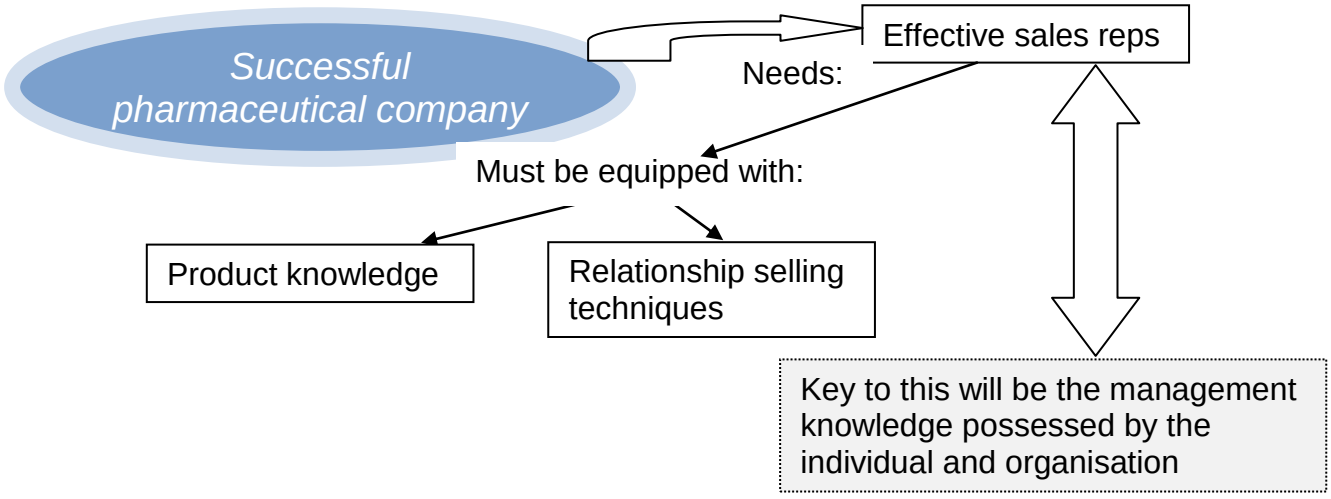


Figure 3.1: Effective sales reps in a successful pharmaceutical company

Companies have further identified that it will be beneficial to equip their sales forces with both product knowledge and relationship selling techniques. The pharmaceutical company now has to think of new and innovative ways to make its reps unforgettable to the physicians that see many reps per day. The objective of a highly effective sales force is to maximise sales by being as productive as possible. Building an overall smarter organisation by managing the knowledge inside the organisation seems to hold the key to synergising the efforts of a sales force.

3.4 KNOWLEDGE MANAGEMENT FOR KNOWLEDGE WORKERS

As discussed in Chapter 2, knowledge is the awareness and understanding of facts, truths or information gained in the form of experience or learning and two forms of knowledge exist namely tacit knowledge and explicit knowledge. A study of 44 pharmaceutical companies (Ward & Abell, 2001: 11), indicated that many firms have adopted knowledge management, but few actually use knowledge

management to enhance the sales force. What then is a knowledge worker and how can knowledge management bring about a more successful sales force?

3.4.1. Defining the knowledge worker

A knowledge worker is anyone who works for a living at the tasks of developing or using knowledge (Choksy, 2006: 30). This differs from other workers that use physical force and manual skills in order to achieve their objectives. The knowledge worker in turn uses knowledge, theory and concept and according to Madhukar (2005: 5), knowledge workers can be differentiated from conventional workers by three key features.

First, the basic task in knowledge work is *thinking* - it is mental work, which adds value to work through mental activities. Knowledge work involves activities such as analysing and solving problems, deriving conclusions, and applying these conclusions to other situations. Naturally, the effectiveness of the knowledge worker would depend on the mental skills and mastery of certain intellectual disciplines and expertise such as knowledge of theoretical frameworks. The knowledge worker also has a very good problem-solving ability (Madhukar, 2005). Pharmaceutical companies in South Africa do not pay sales force members according to their workload anymore. Sales force members are rather paid according to the complexity of their decision making.

The second key feature distinguishing knowledge workers from conventional workers according to Madhukar (2005) has to do with the kind of thinking involved in knowledge work. Knowledge work is not a step-by-step linear mental work, as the knowledge worker has to be creative and non-linear in his/her thinking.

The third distinctive feature of knowledge work is that it uses knowledge to produce more knowledge. Thus, knowledge-work is more than mere application

of known knowledge, as the outcome of knowledge work is the creation of new knowledge (Madhukar, 2005: 7). The knowledge worker uses prior experience or knowledge gained from other team members and applies it to the situations at hand. The knowledge worker therefore has the ability to tailor knowledge so that it can fill new knowledge gaps and thus achieve the desired objective.

Knowledge workers are obviously non-manual workers and are usually employed by organisations to carry out innovative activities. According to Stuhlman (2006: 8), knowledge workers are those members of the organisation who use knowledge to be more productive workers. These workers use a variety of knowledge in the performance of their regular business activities. Gillingham and Roberts (2006) agree with Stuhlman (2006) and add that a knowledge worker might be someone who works at any tasks that include planning, searching, analysing, organising, storing, programming, distributing, marketing, or otherwise contributing to the transformation and exchange of information. Knowledge workers also include those who work at using the knowledge thus produced to be more productive in the organisation.

Prior to this Miller (1998: 10) clarified the concept of knowledge workers when he stated that knowledge workers used their intellect to convert their ideas into products, services, or processes. A knowledge worker creates knowledge and then knows how to tap and share it across the organisation.

3.4.2. The sales force as knowledge workers

From the discussion on knowledge workers it is apparent that the pharmaceutical sales representative will fall in the category of a knowledge worker. Knowledge workers are knowledgeable people with insight into specific factual and theoretical information. A practical example of this is where the sales representative commands factual knowledge concerning the product he or she sells and theoretical knowledge about how to interest customers in that product.

Even though the sales representatives may need years of formal education to master the information needed to enter this particular field of work, they will also be acquiring additional information on a continual basis.

Pharmaceutical organisations operating in today's information society depend on knowledge that is continually growing and changing. According to Davenport (2005: 12), the distribution of information within organisations has become problematic due to the massive amount of information with which employees need to be familiar. The sales force members as knowledge workers need to know which sources provide the information they need and how to use these sources in order to locate information successfully (Davenport, 2005: 12).

Knowledge workers use information to answer questions, solve problems, complete writing assignments, and generate ideas, and this is true of the sales force members in the South African pharmaceutical industry as well. Sales force members need to successfully address customer service related issues by applying analytical reasoning, as well as problems solving abilities. Problem solving abilities develop where the knowledge worker uses knowledge that is shared by other team members and apply it to his/her own circumstances (Davenport, 2005: 11). They therefore learn from the experiences and stories of other team members and are able to better differentiate how to act in a particular scenario.

Knowledge work is non-repetitive in nature and this makes the ability of the knowledge worker to apply information to new situations fundamental for achieving objectives and become more productive. The knowledge work of the sales force is characterised by close contact with customers, supervisors, subordinates, and team mates. Communication skills are essential to knowledge workers and therefore they must also be able to speak, read, write, and listen in one-on-one and group settings (Davenport, 2005: 11). Pharmaceutical companies place a huge emphasis on quality customer service where goods and

services are customised to meet individual customer needs. This means that sales force members are in close contact with customers on a continual basis and the need for effective communication skill comes to the forefront again. Organisational effectiveness can only be achieved when products and services are continually improved and this requires effective communication between supervisor and supervised and among team mates or colleagues. Sales force members need to be schooled in these communication skills as, according to Drucker (1999b: 79), knowledge workers possess communications skills that enable them to collaborate with one another for goal-setting, decision-making, and idea generating purposes.

Knowledge work in pharmaceutical companies requires continual development of the skills used to master information. Knowledge workers must become interested and remain interested in finding information, memorising that information, and applying it to their work. The pharmaceutical industry is characterised by continual technological developments and this means that sales force members have to continuously change and adapt the way they accomplish their work. Sales force members must further maintain a desire to apply their talents towards integrating new information and new technologies into their work (Stylusinc, 2006). Sales force members as knowledge workers also must have the intellectual capabilities to acquire the skills discussed above. Such intellectual capacities include those concerned with the understanding, recall, processing and application of specialised information. Persons who perform knowledge work must possess the abilities needed to acquire appropriate communication skills and to learn how to figure out where and how information can be located.

As mentioned earlier in the chapter, it is important for knowledge workers to be able to identify the appropriate knowledge required for their needs and then have the ability to extract and adapt the knowledge in order to use it in a context suitable to the problem that faces the knowledge worker. Knowledge workers

therefore have the intellectual capacity to understand the value of acquiring and maintaining the knowledge and skills needed to accomplish their work.

As discussed in depth in Chapter 2, the two main forms of knowledge are tacit knowledge and explicit knowledge where tacit knowledge can be held in a person's mind and explicit knowledge can be held in written documents and procedures. For knowledge workers, tacit knowledge is often part of the backbone of the organisational knowledge and therefore the person needs to be schooled to use this type of knowledge (Mohanta & Kannan, 2001: 77). The basic task in knowledge work is thinking which adds value to work through mental activities. Knowledge workers find and access information from the vast sources of knowledge and use this information to answer questions, solve problems, complete assignments, and generate ideas. The knowledge worker's performance can be improved by providing access to relevant information and continuing educational opportunities (Mohanta & Kannan, 2001: 78). A conscious effort is required by management in an organisation to make as much as possible tacit knowledge available for the development of the knowledge worker.

Fenton and Albers (2007: 148) studied the use of knowledge management by the sales force of a large pharmaceutical company and they concluded that knowledge management practised by the sales force can enhance the selling capabilities of individuals, strengthen customer relationships, provide competitive intelligence, and mitigate the potential damage left behind when experienced sales representatives leave the territory (Fenton & Albers, 2007: 148). There is also an added benefit towards knowledge management in pharmaceutical companies in that it can provide information to other areas of the organisation that could have an impact on what products to pursue, could reduce the R&D cycle, and could improve marketing strategies.

In view of the above it is clear that the sales force of a pharmaceutical organisation will be classified as knowledge workers due to the fact that they

work for a living at the task of developing and/or using knowledge. Also note that the outcome of knowledge work is the creation of new knowledge, and the sales force uses this knowledge to be more effective and productive as Figure 3.2 below depicts.

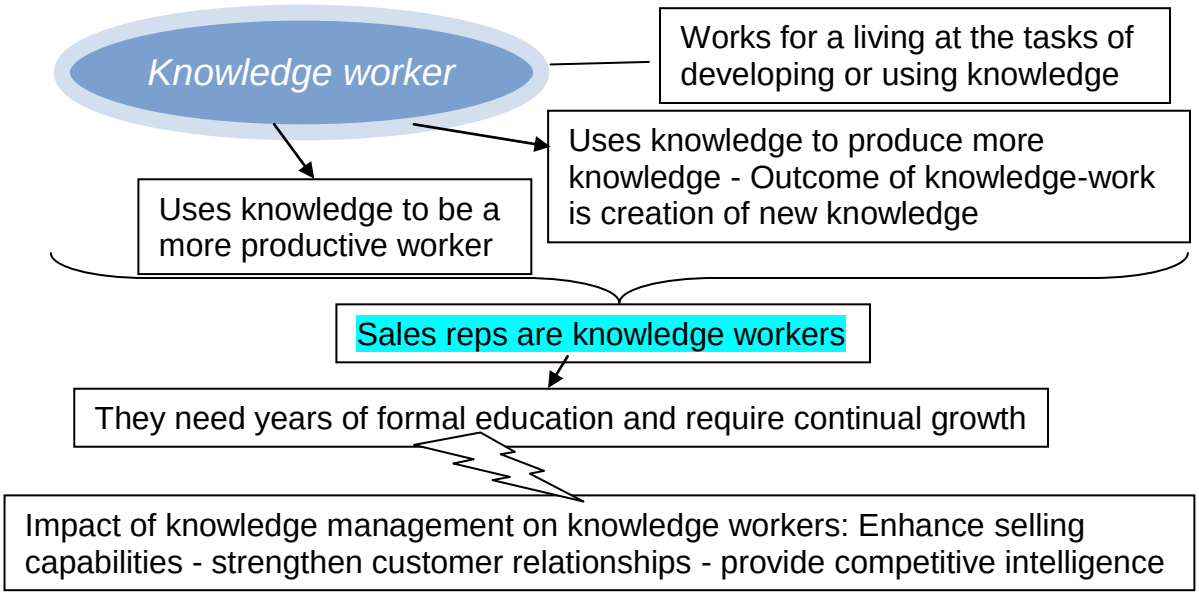


Figure 3.2: The knowledge worker and the impact of knowledge work on performance

It is also clear that knowledge sharing can have a beneficial impact as the development of a knowledge worker takes years of formal education. Knowledge workers also require continuous growth in terms of mastery of information, skills development and new knowledge.

3.5 PRODUCTIVITY

In the simplest terms, productivity is the ratio between the quantity of goods or services produced and the quantity of resources used to produce them (Saari, 2011: 24). Sales productivity therefore is the ratio between goods and services sold and the resources used to sell them.

In a business context, productivity is the ratio of output production to input effort. The productivity ratio therefore is an indicator of the efficiency with which an enterprise converts its resources (inputs) into finished goods or services (outputs). If the goal is to increase productivity, this can be done by producing more output with the same level of input. Productivity can also be increased by producing the same output with fewer inputs (Saari, 2011: 25).

3.5.1 Employee productivity

Businesses live and die by productivity, as a productive company has lower operating costs and can sell its products or services at lower prices. This will increase volume and profits for the organisation and is therefore critical to organisational success and to a country's economy (Chinn, 2010). Worker productivity is one of the key issues for any business where getting the most out of the least is an essential element in establishing and maintaining competitiveness. As soon as employers realise that the desired productivity is not achieved, they will start investigating the environment at work and the working conditions, as well as factors that deal with work culture, in order to find the barriers to achieving optimum productivity.

Some of the major threats to productivity include the ineffective use of technology, rising wage and benefit cost, lack of qualified workers and lack of worker training and support. In addition to this, an aging workforce is seen as a major risk for declining productivity. When an older employee leaves the company, a lot of knowledge and experience leave with him/her and this drains the company of its intellectual assets (Saari, 2011: 25). A tool to increase productivity is to improve communications between workers and their co-workers as well as between workers and management. The increase in communication will facilitate the transfer of valuable tacit knowledge among team members, thereby alleviating the knowledge gap that stays behind when older, experienced employees leave the company. According to Saari (2011: 26), an added benefit

of increased communication and knowledge sharing is that by gathering input from more workers that job can be made easier.

Improved communication can also lead to another step known to enhance productivity, namely enabling the work force. Kohli (2012: 2) maintains that once communication channels are open, upper management may find that employees are as committed to improving the business as they are. Fenton and Albers (2007: 146) allege that the value of knowledge sharing cannot be underestimated - workers need to communicate knowledge gained to co-workers. Management must also realise that front-line employees are quite often the best source of ideas on how to improve productivity, and the best source for implementing those ideas (Kohli, 2012: 5). Empowerment through knowledge sharing in the business environment enables employees and management to learn and implement new ways of working, thus improving business operations. According to Saari (2011: 26), this will lead to increased profits and productivity. True empowerment requires employers to provide their workers with skills and knowledge to perform their jobs.

Upper management must provide on-going training and skills development, while managers should act as coaches and leaders who make required resources available. Saari (2011: 26) asserts that mutual trust and caring must develop between associates and managers, and this holds true for the sales force members in the pharmaceutical industry too, as trust is essential if positive changes are to occur.

3.5.2 Improving the productivity of the knowledge worker

Improving the productivity of knowledge workers is one of the major challenges for the present day business world (Drucker, 1999b: 79). Unlike blue-collar employees who contribute through their muscle power, knowledge workers contribute through thinking, but monitoring the performance of a knowledge

worker may pose a problem. The contributions of the blue-collar employees can be monitored by monitoring their presence at the workplace and also by observing whether they are operating their machines, tools, and so forth, or not. Monitoring the contribution of a knowledge worker is a far bigger challenge. It is not possible to observe whether the individual is thinking or not. For thinking there is no boundary; the employee may think at the workplace, their residences, on the way to office, or during morning or evening walks, or at any other time. Thus, monitoring the attendance of the knowledge worker will not necessarily warrant his/her contribution. Drucker (1999b: 79) puts it that “only when the outcome of thinking comes out, the contribution of the knowledge worker can be seen.”

The supervision of knowledge workers in the conventional way is therefore not possible. The knowledge worker rather has to be given full autonomy, flexible work timing and the target for achieving the result. The organisations should look for various productivity improvement processes and implement those processes in order to improve the productivity of the knowledge workers. Drucker (1999b: 80) identified six factors that will have a positive impact on knowledge worker productivity. First, a task needs to be defined with clear goals and objectives and the knowledge worker then must have autonomy to do the work as he/she sees fit. The third factor that Drucker (1999a) stressed is the importance of management to encourage innovative thinking during problem solving. Another positive contributor to productivity is motivating the knowledge worker to not only obtain new knowledge, but also to share the knowledge with other participants.

Management further should document quality standards for the required work and this will also assist with objective setting by the knowledge worker. The final factor is for management to realise that the knowledge worker is an asset and not a cost to the company. Making knowledge workers more productive, therefore, requires a change in basic attitude by both management and employer, while making the manual workers more productive only requires telling

the worker what to do (Drucker, 1999b: 82). Making knowledge workers more productive requires changes in attitude, not only on the part of the individual knowledge worker, but on the part of the whole organisation.

The transfer and sharing of ideas, knowledge and experiences are crucial for the success of any knowledge work. By implementing the productivity improvement processes, an organisation can only improve the productivity of the knowledge workers if they take into account the role that tacit knowledge plays. Mohanta and Kannan (2001: 77) maintain that the knowledge worker's performance and productivity can be improved by providing access to relevant information and continued educational opportunities. Drucker (1999b: 82) contends that an environment that promotes this information's desired use will add to the optimization of productivity. This ties in with the fundamentals of tacit knowledge sharing discussed in Chapter 2, as socialisation and the right environment are needed for successful tacit knowledge sharing.

The importance of documenting and recording tacit knowledge was discussed in Chapter 2 and now information technology strongly comes to the forefront. According to Drucker (1999b: 83), knowledge workers can use information technology (IT) to access, process, store and disseminate information. IT must however be designed to reduce the amount of time knowledge workers spend on information access, management and manipulation. Drucker (1999b: 83) add that through mobile and wireless technologies, knowledge workers can make use of previously unproductive time to access corporate information as soon as it is needed, and communicate this information or newly-acquired knowledge with colleagues and customers. This is done through multiple electronic channels regardless of location.

Knowledge management is important for the knowledge-based assets as generating value from such assets involves sharing knowledge among employees, departments and even with other companies in an effort to device

best practices (Nonaka, *et al.* 2006: 1180). Intellectual and knowledge-based assets fall into two categories, namely explicit or tacit.

Included among the former are assets such as patents, trademarks, business plans, marketing research and customer lists. Explicit knowledge consists of anything that can be documented, archived and codified, often with the help of IT. Tacit knowledge, or the know-how contained in people's heads, their skills, experience, hard-won insight and intuition, and the trust they have invested and earned in relationships inside and outside of the organisation (Sahab, 2002: 11). A knowledge worker is an asset that appreciates over time (Sahab, 2002: 11). An effective knowledge management programme should help a company to foster innovation by encouraging the free flow of ideas and thoughts.

There are many drivers of productivity in knowledge intensive organisations. Pelled, Eisenhardt and Xin (1999: 26) maintain that the knowledge and competence of the knowledge worker drive productivity and that the knowledge worker must have the ability to convert knowledge in such a way that it can be beneficially applied to the work he/she is engaged in at the time. Drucker (1999a) points out that teamwork is often characteristic to knowledge work and is based on knowledge sharing. Knowledge sharing allows workers to capitalise on their core competences and this will assist in increasing productivity. Pelled *et al.* (1999: 27) use similar arguments as they purport that every team should consist of people who together possess all the qualities required for success in an organisation. These people should use their competences to complement one another in order for productivity to be optimized in an organisation.

As Drucker (1999b: 81) has stated, quality defines the applicability of the output of knowledge worker. The satisfaction with one's own work quality can also reflect inner satisfaction, and therefore it is suitable to consider it as a driver of productivity. Closely related to quality is the ability to fulfil customer's expectations. If they are not fulfilled, customers will eventually find a better

supplier who listens more carefully to them (Dooley, Corman & McPhee, 2002: 220). The workers often know quite well what is expected of them and whether they have been able to satisfy these expectations. Control of this factor also enables management to see whether the workers have noticed the shortcomings perceived in other situations.

3.5.3 Improving the productivity of the knowledge worker by tacit knowledge sharing

For over two hundred years, labour and capital were recognised by neo-classical economists as the prime factors of production. Today, however, it is the level of knowledge intensity and its effective application to production that determine the wealth of a country or individual. According to Drucker (1999b: 79), the world's wealthiest man, Bill Gates, owns nothing tangible - no land, no factories, no industrial processes, and so forth to be successful. Drucker (1999b: 79) commented that 'knowledge' is the true "factor of productivity". This is because knowledge is a special economic resource, which moves from one country to another to add value to the recipient country's stock of capital, and at the same time the originating country will not suffer any loss from the 'outflow'. Knowledge is the only resource that can be conveyed from one man to another in such a way that the process of transfer enriches both".

Researchers have linked the importance of knowledge sharing to success in organisations (Hansen, Nohria & Tierney 1999: 110); and in addition, the assumption of much knowledge management research is that knowledge sharing is necessary and positive (Schweizer, 2005: 315). The importance of tacit knowledge sharing in promoting workforce efficiency, are a crucial factor to recognise in becoming more productive. Dalkir and Jenkins (2004: 300) stated that tacit knowledge is important because expertise rests on it. It is the source of competitive advantage, as well as being critical to daily management activities. A key challenge in organisational research has been whether it is possible to

manage tacit knowledge, and how. The management of tacit knowledge refers to methods that can be used to facilitate the creation of tacit knowledge and the transfer of tacit knowledge in a suitable way (Zack, 1999: 49).

The effective sharing and transfer of tacit knowledge can add value to and enhance the capabilities of the entire sales force. Overall, the outcome is a better sales force that has access to more information that will make them better prepared and more effective (Fenton & Albers, 2007: 144). In addition, the company will have a knowledge management system that allows it to continue to move forward, to make better decisions, and to improve its competitive position. According to Gupta and Govindarajan (2000: 73), highly complex tacit knowledge can be a source of sustainable competitive advantage in organisations. Complex tacit knowledge is difficult to express and is often context specific, which provides the source of potential sustainability. It is, however, difficult to share this type of knowledge, as discussed in Chapter 2.

In view of the above discussions, it is apparent that employee productivity is crucial to organisational success and the survival of the organisation in general. Even though there are numerous threats to worker productivity, effective knowledge management can counter most negative influences and will lead to a rise in competitive advantage due to the fact that knowledge is the true factor of employee productivity.

The sharing of tacit knowledge will generate value from knowledge assets, as the sharing of knowledge is where the true value lies. As Nonaka and Takeuchi (1996: 836) mentioned, the preconditions for a successful knowledge-intensive organisation is the ability to convert tacit knowledge effectively to the benefit of others. Tacit knowledge is important because expertise rests on it and it is the source of competitive advantage, as well as being critical to daily management activities. Deploying tacit knowledge in forums such as team meetings and social

gatherings can add value and enhance the capabilities of the entire sales force, thereby leading to sustainable competitive advantage for the organisation.

It is apparent from the above discussions that front-line employees are quite often the best source of ideas on how to improve productivity and the best source for implementing those ideas. As mentioned earlier, the sales force of the pharmaceutical industry are knowledge workers and making knowledge workers more productive requires changes in attitude, not only on the part of the individual knowledge worker, but on the part of the whole organisation. Figure 3.3 below summarises how the knowledge of a knowledge worker can lead to sustainable competitive advantage for an organisation.

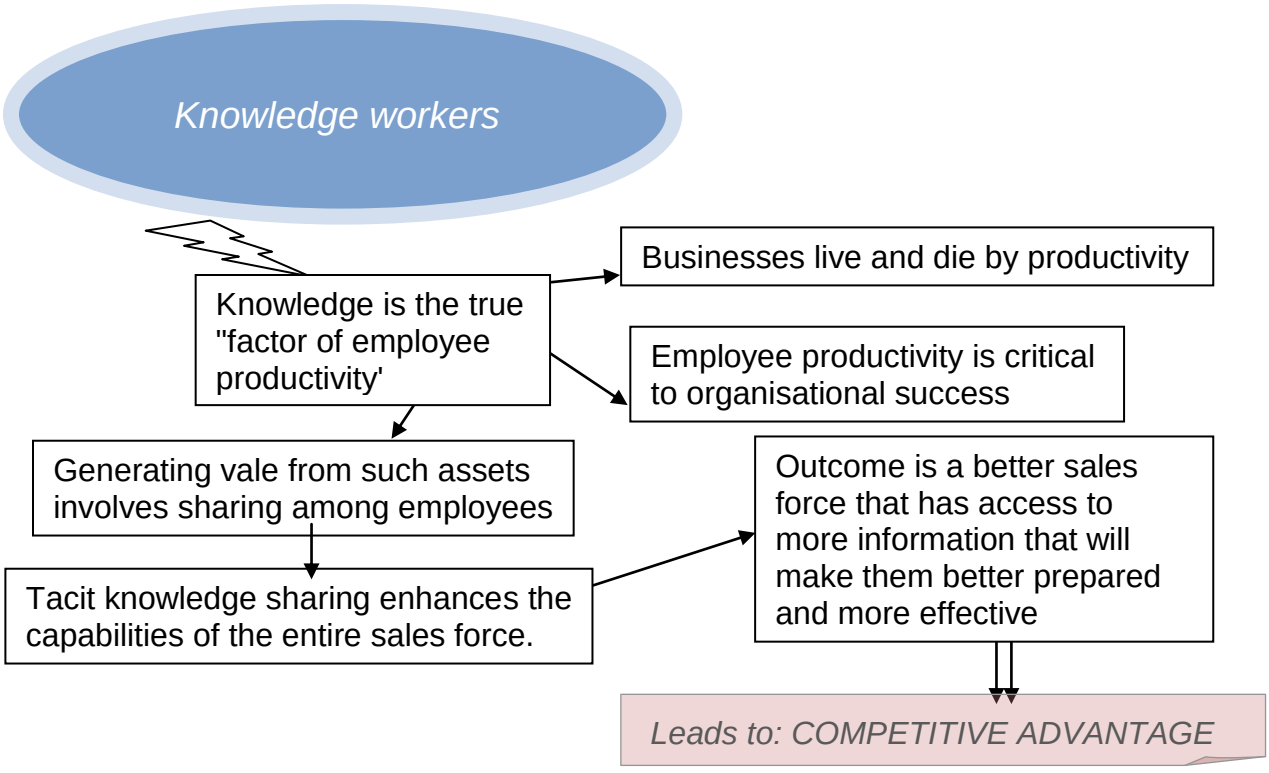


Figure 3.3: Tacit knowledge sharing leading to competitive advantage for knowledge workers

3.6 MANAGEMENT MODELS FOR TACIT KNOWLEDGE SHARING

According to Dalkir and Jenkins (2004: 305), it is the role of managers to encourage and support the creation and exchange of tacit knowledge. He added that managers should act as “knowledge brokers,” who are responsible for contributing to the diffusion of knowledge across and between teams and individuals in the organisation. Managers should also be aware of certain behaviours for the purpose of managing knowledge within an organisation (Dalkir & Jenkins, 2004: 305). There are several kinds of behaviour that can be observed from individuals or groups within an organisation. More specifically, these behaviours can indicate potential strengths or weaknesses in the knowledge environment of an organisation. The apparent question is then how should this be managed?

3.6.1 Tacit knowledge sharing and communities of practice

Managers have the responsibility of providing an environment, whether it is physical or virtual, that will lend itself to the creation and sharing of tacit knowledge (Nonaka & Konno, 1998: 44). One approach to managing the creation and exchange of tacit knowledge is through communities of practice. Davenport and Hall (2002: 209) define a community of practice in simple terms as a group that learns together, shares knowledge and creates common practices. McDermott (2004: 10) adds that communities of practice will share information, insight, experience and tools about an area of common interest.

Prior to this, Wenger (1998) made it clear that a community of practice is different from a team or taskforce which focuses on specific and/or temporary problems. Communities of practice are not goal driven, like tasks and projects, nor are they necessarily deadline driven. According to Davenport and Hall (2002: 211), communities of practice provide a means of constructing “recipes” for knowledge development. It is just a matter of building certain structures, such as an intranet,

and allocating personnel to those communities, where they will work together to facilitate knowledge development and sharing (Davenport & Hall, 2002: 212). Management needs to acknowledge the important value that communities of practice can bring to an organisation by allowing adequate attention and autonomy for these types of groups to grow organically in the creation and sharing of tacit knowledge.

McDermott (2004: 11) offers several guidelines to managers in order to start and support communities of practice within an organisation. He suggests that in order to leverage knowledge effectively, companies should begin with a few communities of practice that are focused on topics strategically important to the organisation. He adds that socialisation is important, and that managers should search for any current social interaction forums and build on these. Managers should place change agents who will promote sharing of knowledge during these sessions. Managers should lastly support communities by being patient if results are not immediately achieved. McDermott (2004: 12) suggests that the primary tasks of communities of practice are to focus on learning within functions or disciplines, sharing information and insight, collaborating in solving problems and stimulating new ideas. Communities of practise can exist electronically with examples such as newsgroups or discussion boards, or in the workplace such as in the tea room, in a field setting or elsewhere in the environment. In view of the above example, it is apparent how a community of practice can be used to facilitate the creation and sharing of tacit knowledge amongst individuals as a collective group. It is therefore apparent that if managed effectively, the community of practice can be a rich, nurturing environment that can produce tangible, external results in an organisation.

3.6.2 The correct environment for tacit knowledge sharing

Another approach to managing the creation and exchange of tacit knowledge is the creation of a shared workspace, or environment, for the sharing of

knowledge. Nonaka and Konno (1998: 47) wrote about the concept of "*ba*" (a Japanese concept meaning "place"). According to them, "*ba*" can be thought of as a shared space for emerging relationships. This space can be physical (an office, dispersed business space), virtual (e-mail, teleconference), mental (shared experiences, ideas, ideals) or any combination of them.

What differentiates "*ba*" from ordinary human interaction is the concept of knowledge creation. To managers, this means providing an environment that facilitates the creation and sharing of tacit knowledge (Nonaka & Konno, 1998: 49). According to Nonaka and Konno, there are two dimensions to tacit knowledge. The first is the technical dimension, which involves the kind of informal personal skills referred to as "know-how." The second dimension is cognitive and consists of beliefs, ideals and values which are often taken for granted (Nonaka & Konno, 1998: 50). The SECI model was discussed in Chapter 2 as a way to show how the interactions between explicit and tacit knowledge lead to the creation of new knowledge (Nonaka & Konno, 1998: 49). Managers should be aware of this SECI process when developing an environment for knowledge sharing in their organisation. Knowledge is manageable only insofar as leaders embrace and foster the dynamics of knowledge creation.

3.6.3 The role of managers in managing tacit knowledge

There are several techniques that managers can use in managing tacit knowledge. One way is for managers to offer personnel training and exercises to allow the individual to access the knowledge realm of the group and the entire organisation. For example, training programmes in larger organisations help trainees to understand the organisation as well as their roles (Nonaka & Konno, 1998: 41). Teaching people new concepts or methods for how to share knowledge can be useful, for example by means of increasing the socialisation between team members.

Additionally, managers need to provide motivation for knowledge-sharing activities as knowledge management strategies need to be linked to people by building reward and recognition programmes to encourage employees to share best practices, strategies, and ideas (Davenport & Hall, 2002: 180). A manager may explicitly reward an individual who participates in knowledge-sharing activities such as sharing new ideas or successes with fellow team members in the form of a tangible benefit, such as increased pay or bonuses in the forms of cash or stock options (Davenport & Hall, 2002: 182). A second option is to reward employees in more subtle ways, such as enjoying the personal satisfaction of holding membership of a thriving, knowledge-sharing community. Also important is that human concerns about reputation and status lie behind an important "soft" reward for knowledge-sharing activities, such as acknowledgement from peers.

In addition to rewards, organisations can set up a range of other types of incentives to encourage knowledge sharing such as making knowledge sharing part of the job description of each individual, encouraging employees to work in groups as communities, allowing experimentation and risk-taking, and providing tools for these activities (Davenport & Hall, 2002: 181). Employees may for instance use a self-developed intranet as a tool for collaboration and communication (Hansen, *et al.,* 1999: 106). Managers are responsible for providing the incentives and tools that are needed to facilitate knowledge-sharing activities. Time spent in working hours on knowledge-sharing activities should be regarded as legitimate (Davenport & Hall, 2002: 178). This may require a significant change in the mind-set of managers and employees. Time should be set aside specifically for individuals to learn, share, and help one another. Leading by example can also have a positive impact on knowledge management (Collins, 2011: 42). Managers should be positive role models in the knowledge-sharing process. This will help to build trust, which is critical in the knowledge-sharing environment. Each contribution to knowledge sharing increases not only the amount of knowledge, but also trust among community members. Davenport

and Hall (2002: 182) maintain that as trust increases, more participants will become willing to share, and further contributions will be made.

Knowledge sharing depends upon social interactions. The easier it is for individuals to interact, the more likely that interactions will occur (Davenport & Hall, 2002: 182). Managers can use various techniques to improve the ease of social interaction, such as creating a shared language for the team, organising social events and setting clear participation rules during team meetings. In addition to making it easy for the team to interact, the perceived usefulness of interacting is also a primary motivation. The provision of a suitable technological infrastructure, such as an intranet, for knowledge creation/sharing is important. Business needs and the kinds of knowledge required to fulfil them have to be identified first before tools and processes are implemented. Davenport and Hall (2002: 181) assert that many initiatives have failed where technology has dictated knowledge management. Successful knowledge management is about shifting culture and behaviour. Technology is an important tool in the process, but not more important that creating the correct culture for sharing.

It now becomes apparent from the above discussion that knowledge must be acted on and a value must be gained from it. Even where knowledge flows quite efficiently in an organisation, companies can often do more to ensure information is acted on. According to Chen and Edgington (2005: 281), a vast amount of resources is wasted in corporations just by unwittingly repeating the same mistakes, or failing to repeat useful discoveries. There must be a means to learn from experience – good or bad. According to Dalkir and Jenkins (2004: 300), many large organisations have a dedicated head of knowledge management or at least a high-ranking sponsor, to ensure the right collaborative environment.

Part of the management actions taken to ensure the success of tacit knowledge sharing, is the use of tools and technology. Bulletin boards and web logs have begun to prove their worth to a range of organisations as they supply an instant

exchange of learning. Organisations that provide forums, tools and opportunities for informal networking can encourage employees actively to share knowledge. In view of the above it must be noted that one can only get people to volunteer knowledge - one cannot force it. It is therefore clear that the role of managers is to encourage and support the creation and exchange of tacit knowledge. It is further apparent that managers are responsible for providing the incentives and tools required to facilitate knowledge sharing, as Figure 3.4 below depicts.

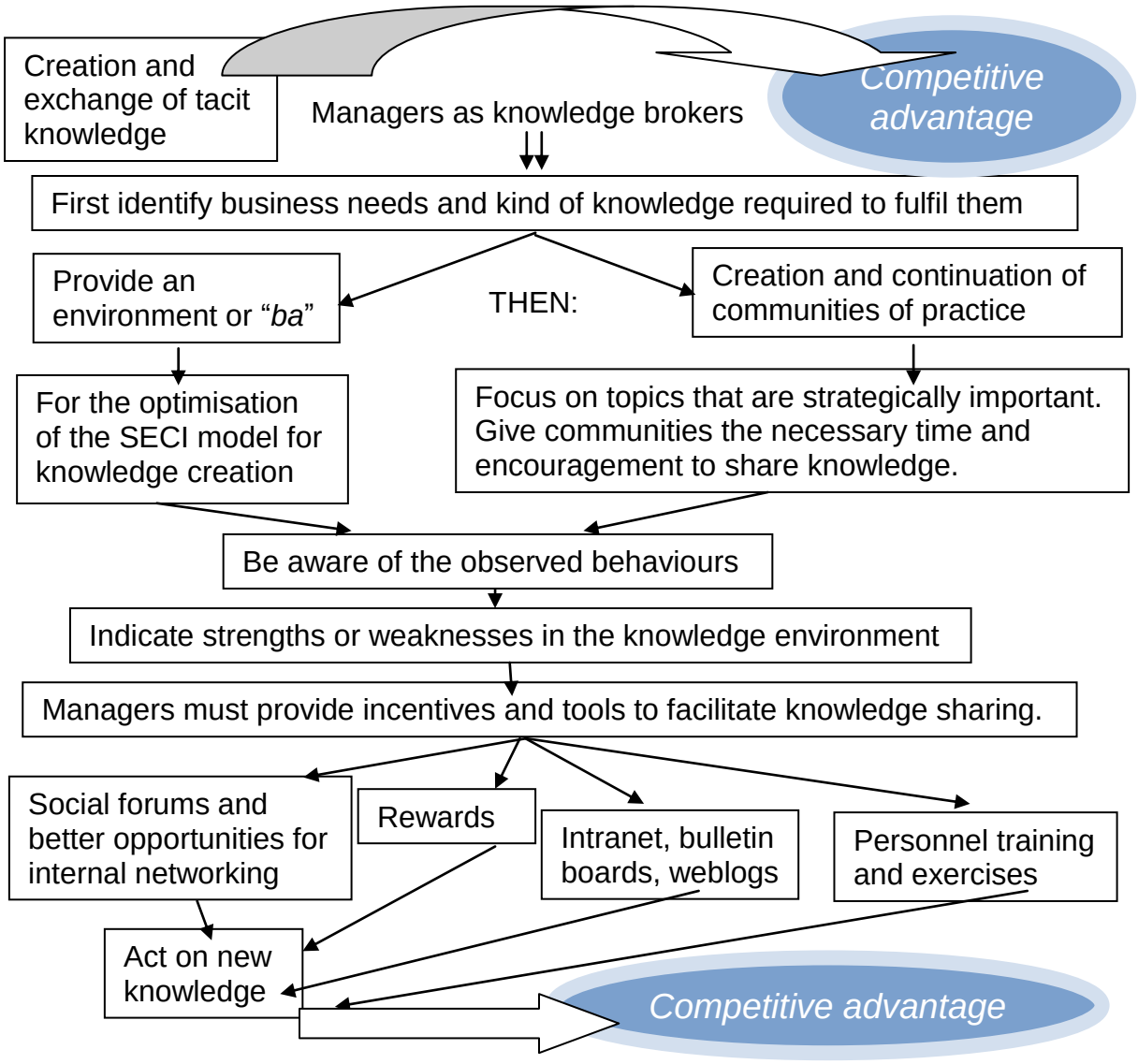


Figure 3.4: Managers' role in tacit knowledge sharing

3.7 TACIT KNOWLEDGE SHARING IN A MULTI CULTURAL SOUTH AFRICAN WORKFORCE

Davenport and Prusak (1998: 179) express the opinion that companies wishing to gain a competitive advantage through knowledge management are challenged to create a culture and environment in which knowledge sharing will thrive. Gourlay (2002) has similar ideas, and adds that without an appropriate culture, knowledge sharing is very difficult and very limited. What then is culture in an organisation?

3.7.1 Culture: Some definitions

Culture is group specific behaviour that has developed from social influences. It is therefore the behaviours and beliefs of the particular social, ethnic or age group (Albers & Barnowe, 2003: 15). According to Olsaretti (2004: 173), the term culture can refer to national culture or corporate/organisational culture.

National culture differentiates members of one human group or country from another by what Cleveland (in Albers & Barnowe, 2003: 25) called “the collective programming of the mind”. The collective programming is based on values; in other words, members of a culture will have similar influences during their upbringing and will therefore view the world in a similar way.

According to Gourlay (2002: 1415), corporate culture is one of those focus areas that are not always fully understood, and due to the concept not being fully understood, it is also not optimally utilised either in an organisation. A basic definition of organisational culture is the collective way in which people in an organisation do things around there. It involves a learned set of behaviours that is common knowledge to all the participants. The members of an organisation therefore know that they have to act and behave in a certain way on certain

occasions. Gourlay (2002) adds that these behaviours are based on how members understand and interpret events.

Organisational culture is influenced by the shared experiences of the members in the organisation. These shared experiences will lead to shared attitudes, beliefs, customs as well as written and unwritten rules that the organisation develops over time and that have worked well enough to be considered valid. Corporate or organisational culture will affect the organisation's productivity and performance. This was highlighted by Cross and Cummings (2004: 929) as they pointed out that corporate culture provides guidelines on customer care and service; product quality and safety; attendance and punctuality; and concern for the environment. It also extends to production methods, marketing and advertising practices, and to new product creation.

While there are many common elements in the large organisations of any country, Cross and Cummings (2004: 928) point out that organisational culture is unique for every organisation and is one of the hardest things to change. As mentioned, organisational culture is the collective behaviour of people that form part of an organisation and is also formed by the organisation’s values, visions, norms, working language, systems and symbols and it includes beliefs and habits. However, differences in national cultures exist contributing to differences in the views on management. Differences between national cultures are due to deep-rooted values of the respective cultures, and these cultural values can shape how people expect companies to be run, and how relationships between leaders and followers should be.

According to De Long and Fahey (2000: 113), these differences in expectations can result in conflict, as there may arise differences between the employer and the employee regarding work and productivity expectations. Ford and Chan (2003: 12) maintain that culture forms an integral part of any organisational strategy as it involves individuals in a group sharing patterns of behaviour. They

pointed out the fact that because culture is relative, managers in an organisation have the power to create a culture that is the best fit for an organisation's future direction (Ford & Chan, 2003: 14). According to these authors, one of the surest ways to align the culture to the organisation's strategy is to apply leadership practices that are also aligned. The leaders, at all levels, need to know what the required culture is and then determine ways of establishing practices and procedures in all operations that will closely reflect the desired culture. They also need to role model the very behaviours they wish exhibited by everyone in the organisation and also provide the necessary support to others that will enable them to function accordingly.

3.7.2 Influence of cultural dimensions on knowledge sharing

The question now arises as to how cross-cultural issues relate to knowledge management. Davenport and Prusak (1998: 179) aptly state that companies wishing to gain a competitive advantage through knowledge management are challenged to create a culture and environment in which knowledge sharing will thrive. Lam (2000: 487) studied national cultures and identified dimensions that can affect behaviour in organisations. Gender, and how the roles of males and females are classified in a particular culture, can play a role on the willingness of an individual to share knowledge. Socialisation and teamwork are important for effective knowledge sharing, but in some cultures individualism is promoted and this may hamper efforts to promote knowledge sharing. According to Davenport and Prusak (1998: 180) this is due to individualists promoting the goals and desires of the individual over the collective goals of a team or organisation.

The differences in these dimensions may impact the knowledge processes within an organisation. For instance, cultures that measure high on individualism value the accomplishments of the individual, whereas collectivistic cultures place more value on collective accomplishments. One possible implication is that individualistic cultures may have more difficulty in knowledge sharing, since

knowledge is often seen as a tool for success for the individual (Davenport & Prusak, 1998: 179). Conversely, cultures that are collective may find knowledge sharing easier (if knowledge sharing is understood as being beneficial for the group), because individuals would behave in a manner to maintain group harmony.

Prior to this, Grant (1996: 109) identified two cultural dimensions that are important for knowledge sharing and effect the knowledge flows within the organisation. The first dimension is sociability; high sociability fosters teamwork and is associated with sharing of information. This promotes work politics and makes it difficult to reprimand poor work. The management therefore needs to recognise that they have to promote the socialising aspect for knowledge sharing, but this does not mean that they have to tolerate poor performance.

The second dimension identified by Grant (1996: 109) is solidarity. High levels of solidarity are associated with high performance and an ability to work with others without having a personal relationship with them. It is, however, associated with a degree of ruthlessness in that everyone is held to the same standards (Grant 1996: 110). Within a single organisation there may be multiple subcultures, given these two dimensions (e.g. from department to department). The task of management will be to work toward a common organisational goal to create a common organisational culture. If they cannot create a common organisational culture, they might find that silos appear in the business, and different organisational cultures and standards will surface in the company.

3.7.3 Organisational culture as mediator

Davenport and Prusak (1998: 181) are of the opinion that the organisational culture can act as a mediator for national culture and knowledge management processes as it is the organisation's expectations and the reward structures that communicate to its members what the organisation values. The values may be

communicated either explicitly or implicitly through practices, policies and symbolic interactions. McDermott (2004: 11), in turn, points out that there are factors of the organisational culture that will influence knowledge sharing. These factors include trust, common language and vocabularies, a similar frame of reference and a willingness to help one another.

3.7.4 Culture and the implications for South African management

The above discussion on culture has important implications for managers who wish to implement formal knowledge management initiatives within an international subsidiary, or a business that consists of diverse cultures such as the South African business environment.

The first implication is that the presence of different languages, as McDermott (2004: 10) pointed out, may be the largest barrier to knowledge flow between cultures. The use of different languages may create stumbling blocks in knowledge flow, but a good way to mitigate the negative consequences of language barriers is to emphasize active listening skills, patience and understanding. Another way to mitigate this barrier is to support employees in learning other languages in the workplace (McDermott, 2004: 11). The development of a strong organisational culture that stresses knowledge sharing will assist in mitigating the negative influence that national or ethnic cultures may have on knowledge sharing. Management support is also important for identifying preferred practices such as from whom employees should be seeking knowledge. If the company wishes to capture the knowledge that is available at the frontline (such as where the sales force members operate), management will have to identify that as a goal, and support appropriate behaviours.

The pharmaceutical industry in South Africa is characterized by many companies operating under license of international parent companies. It is also characterised by international subsidiaries operating in South Africa. The management

implication for international subsidiaries, therefore, is to decrease the knowledge flow barrier between the parent company and the management and employees of the subsidiary company. Although this might be a difficult task and an on-going challenge, it would enable managers and employees to make more informed decisions and be more involved in problem identification and solving. Babcock (2004: 46) recommends that creating a team of employees responsible for coordinating the locally-created knowledge with the knowledge that is transferred from the parent company might be the possible solution.

3.7.5 Creating a knowledge-sharing culture

Overcoming cultural barriers to sharing knowledge has more to do with how one designs and implements knowledge management efforts than with changing one's culture. The focus should therefore be on how managements role model the importance of sharing knowledge. Cummings (2004: 360) adds that management should stress that knowledge sharing is part of the core values of the organisation as, in best practice companies, well-respected members of the organisation model the sharing of knowledge. Leaders and influential peers exert pressure to share by linking invisible values and visible elements of knowledge management to the behaviour of peers and managers. Cummings (2004: 362) further adds that best practice organisations report that people frequently seek information and insights outside their immediate workgroup or team. They also report that their brightest people in the organisation are generally their highest contributors when it comes to knowledge sharing.

According to Davenport (2005: 15), there are important lessons to learn about aligning knowledge sharing with the organisation culture. The first lesson is that to create a knowledge-sharing culture a visible connection must be made between sharing knowledge and practical business goals.

The second lesson is that it is important to link knowledge sharing to the core values of the organisation. Management therefore needs to stress from the first day an employee steps into the company that knowledge sharing is important and part of the core values of the organisation.

Davenport (2005: 16) stressed the importance of human networks in the sharing of knowledge. The third lesson thus is that the place where people socialise and share knowledge needs to be enhanced so that it contains the necessary tools and resources required for effective knowledge sharing.

Rewards and measurement are important for any process in the organisation, and Davenport (2005: 16) stresses that the sharing of knowledge needs to be built into routine performance appraisals and employees must be incentivised for their role in knowledge sharing. The fifth and final lesson regarding knowledge sharing by Davenport (2005: 17) states that one does not need to find new structures for sharing knowledge, but should rather find the knowledge-sharing networks that already exist and build on the energy they already have.

In South Africa, many pharmaceutical companies promote brands that belong to international subsidiaries and there are therefore a need to decrease the knowledge flow barrier between the parent company and the management and employees of the subsidiary company. Figure 3.5 illustrates how organisational culture can be a barrier in knowledge sharing.

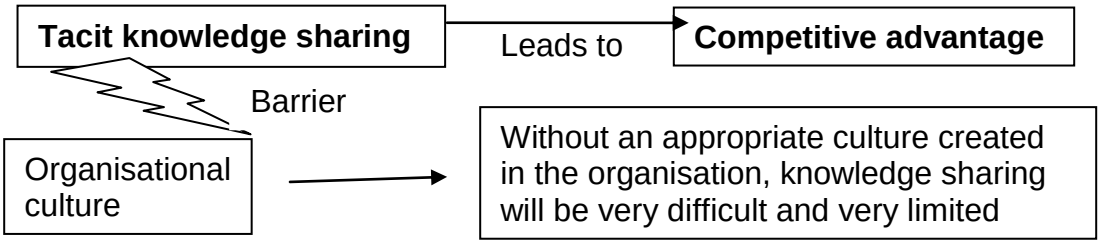


Figure 3.5: Culture as barrier to knowledge sharing

In view of the above, it can be seen that different national cultures emphasize distinct values and are associated with diverse languages. Without an appropriate culture created in the organisation, knowledge sharing will be very difficult and very limited, as the diagram shows.

3.8 POSSIBLE KNOWLEDGE-SHARING BARRIERS SPECIFIC FOR TACIT KNOWLEDGE

Knowledge sharing is not always an easy process for organisations to encourage, as there are inherent risks and barriers that may hamper the process. There also may be problems in an organisation's information and knowledge processes that impact on the quality of its knowledge sharing.

According to Bontis, Dragonetti, Jacobsen and Roos (1999: 393), however, it is not only the barriers that may prevent effective knowledge sharing - other problems may exist too such as the lack of willingness of team members to share their knowledge with one another. Knowledge is diffused as it is passed on, therefore, if not accurately captured by means of writing or archiving, the transmitted message may not have the desired meaning. The actions that arise from sharing knowledge may not be those originally desired. When Reige's (2005: 18-25) barriers to knowledge sharing and Bontis and his co-authors' (1999: 394) problems (which also may be regarded as barriers) are combined, it is evident that while knowledge sharing is perceived to be a process worth pursuing by organisations, it will not be without difficulties. It will be important for pharmaceutical companies that intend to promote a knowledge sharing programme to address the potential barriers.

According to Fenton and Albers (2007: 145), the staff turnover in the pharmaceutical sales forces is high and this has an effect on the effectiveness of the sales force. To make the sales force as effective as possible in as short a time as possible, organisations might have to implement a coaching or mentoring

approach to school new employees, as well as a formal training programme. According to Szulanski (2000: 20) coaching and mentoring might provide ways of alleviating some of the knowledge-sharing barriers. The negative effects of the barriers are inflated by high staff turnovers in pharmaceutical sales forces. Valuable experience and tacit knowledge are lost due to high staff turnovers. It is therefore of value to assess organisations' knowledge-sharing barriers, problems and facilities and to develop a better understanding of these issues. The sales forces in different companies can then work towards solutions to enable better knowledge sharing due to insight into the origins of the issues. It is important to understand what the applicable barriers to tacit knowledge sharing are. Reige (2005: 18-25) listed a number of possible hurdles that companies might have to overcome to achieve effective knowledge sharing. He listed and categorised them under individual, organisational and technological barriers.

3.8.1 Individual knowledge-sharing barriers

Individual knowledge-sharing barriers, as listed by Reige (2005: 20-21), include the general lack of time to share knowledge, as well as the lack of time to identify colleagues in need of specific knowledge. A barrier to knowledge sharing which is specifically applicable to pharmaceutical companies is that individuals might not want to share knowledge, as they fear that sharing may reduce or jeopardise their own job security. Individuals therefore see their knowledge as personal capital, and this is a huge challenge for management to overcome.

Reige (2005: 22) maintains that individuals often simply are not aware of how their knowledge can be beneficial to others. McDermott (2004: 12) highlights differences in age, gender and educational levels as individual knowledge-sharing barriers which may hamper knowledge sharing. These authors added language differences and poor verbal/written communication, as well as poor interpersonal skills will further hinder knowledge sharing. According to Reige (2005: 22) individual knowledge-sharing barriers also include dominance of the

sharing of explicit knowledge over tacit knowledge sharing, a lack of social networks, differences in national culture or ethnic background, insufficient capturing and recording of knowledge, as well as tolerance of past mistakes. By addressing the barriers, individual and organisational learning would be enhanced by interventions such as teams sharing ideas and sharing cultural preferences. Trust is possibly also a big issue in individual knowledge sharing and, in particular, a lack of trust among people, because they misuse knowledge or take unjust credit for it, and lack of trust in the accuracy and credibility of knowledge due to the source (McDermott, 2004: 12).

3.8.2 Organisational knowledge-sharing barriers

An organisational knowledge-sharing barrier mentioned by Reige (2005: 23) is the unclear integration of the knowledge-management strategy into a company's goals and strategic approach. Team members are therefore not aware of how and where knowledge sharing fits in with their work-related strategy. A lack of leadership and managerial direction in terms of clearly communicating the benefits and values of knowledge sharing practices will also hinder effective knowledge sharing. Nonaka and Konno (1998) stress the importance of the place where knowledge sharing will happen, and Riege (2005: 23) adds that a shortage of formal and informal spaces to share knowledge, as well as a lack of company resources that would provide adequate sharing opportunities, will hinder effective knowledge sharing. Management needs to role model knowledge-sharing practices and provide direction to team members. If, however, a company has an existing corporate culture that does not provide sufficient support for sharing practices, or tolerates unhealthy internal competition among team members, it will obviously not be beneficial to knowledge sharing (Nonaka & Konno, 1998).

Reige (2005: 23) asserts that hierarchical organisational structures slow down most sharing practices, seeing that communication and knowledge flows are restricted into certain directions (e.g. top-down). The physical work environment

and layout of work areas may possibly restrict effective sharing practices and the size of the business unit might be unmanageable and, therefore, creates a barrier to the ease of sharing. The lack of transparent rewards and recognition systems that would motivate people to share more of their knowledge is also mentioned as a factor creating a barrier to knowledge sharing in a company.

3.8.3 Technological knowledge-sharing barriers

Reige (2005: 24) warns that if too much time is wasted looking for knowledge that could be easily accessed, companies end up losing their competitive advantage. Knowledge must be recorded and documented for future use and this is done by making use of technology. Technological knowledge-sharing barriers, as listed by Reige (2005: 24), may be due to a lack of integration of information technology (IT) systems and processes, as well as a lack of technical support (internal and external). This means that unrealistic expectations of employees as to what technology can do and cannot do, as well as a mismatch between and miscommunication about individuals' need or requirements and integrated IT systems and processes will restrict sharing practices. Reige (2005: 25) adds that a reluctance to use IT systems due to lack of familiarity and experience with them might furthermore create technological knowledge-sharing barriers. Figure 3.6 below depicts the possible knowledge-sharing barriers that employees might encounter.

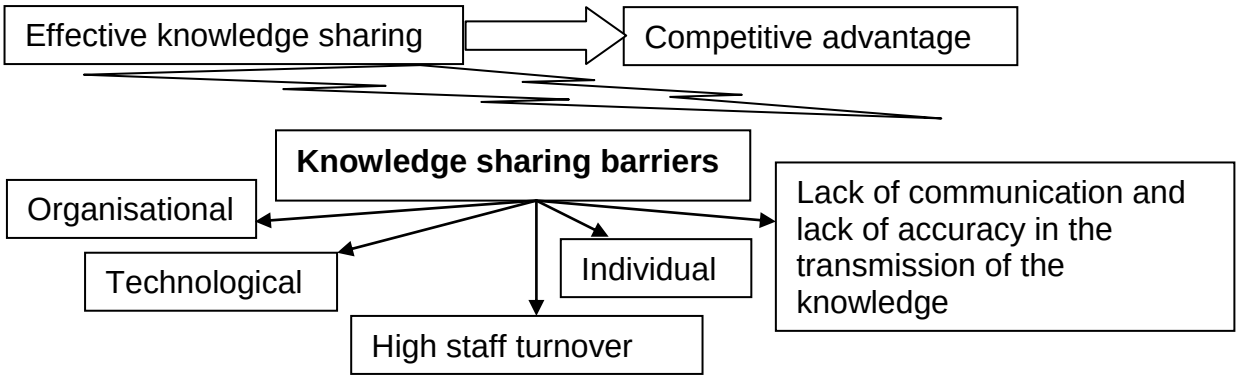


Figure 3.6: Knowledge-sharing barriers

3.9 KNOWLEDGE-CREATION ENABLERS

According to McDermott and O'Dell (2001: 76), all the best-practice companies see the sharing of knowledge as a practical way to solve business problems. They repeatedly emphasize that databases, knowledge systems, and knowledge initiatives need to have a clear business purpose. Tacit knowledge sharing does not happen by chance in these companies as they are well-planned activities linked to the goals and objectives of the organisation and teams within the organisation. Best-practice organisations they studied could easily describe how sharing knowledge contributed to business goals. In fact, these organisations overwhelmingly said that, in their experience, the main reason knowledge-management programmes fail, is a lack of a clear connection with a business goals (McDermott & O'Dell, 2001: 76).

Sharing knowledge can be tied to the business by making it directly part of the business strategy. Several companies integrate sharing knowledge into their business strategy and senior managers also reinforce this visible connection between knowledge sharing and the business strategy (Drucker, 1999b: 80). Some companies approach sharing knowledge in an even more low-key manner where sharing knowledge is simply part of how the company solves specific business problems, such as reducing time to market or developing innovative software solutions (Ford & Chan, 2003: 15). Companies therefore share tacit knowledge routinely as a way of working.

3.9.1 Knowledge-creation enablers specific to tacit knowledge

Nonaka and Takeuchi (1995: 15) first identified and documented the enablers that appeal to tacit knowledge and unleash innovation in an organisation. Von Krogh, Ichijo and Nonaka (2000: 204) later added to the tacit knowledge enablers by suggesting that five specific enablers for the sharing of tacit knowledge exist

and management needs to be aware of these enablers before planning sessions for tacit knowledge-sharing. Von Krogh *et al.* (2000: 205) stated that the first knowledge-sharing enabler is the establishment of a vision to share knowledge in the organisation. This will lead to the organisation creating direction for tacit knowledge sharing. By creating direction, the management will identify goals and objectives that need to be achieved through tacit knowledge sharing better, as the direction into which the team is moving is clear.

Management needs to manage the socialisation part of tacit knowledge sharing as the management of the conversations that take place during planned socialisation is, according to Von Krogh *et al.* (2000: 218) as well as Gupta and Govindarajan (2000: 75), the most important step in knowledge creation. The third enabler also is a planned step in stimulating tacit knowledge sharing. Management needs to mobilise knowledge activists. These are the people who trigger and coordinate the knowledge-creation processes during these social interactions. The forth enabler ties in closely with the previous one. Von Krogh *et al.* (2000: 264) stressed the importance of creating the right context for tacit knowledge sharing. This is important as an enabling context or "*ba*" as Nonaka and Konno (1998: 54) called it, must be carefully founded in an organisation as it creates the correct environment and atmosphere for effective tacit knowledge sharing. The final enabler has to do with recording and documenting tacit knowledge. Knowledge is only useful to other groups if it can be shared and transferred, but most of the times knowledge creation and utilisation are separated in time and space. It is therefore important to recognise this and make plans to bridge this gap in order to bring about organisational knowledge.

Von Krogh *et al.* (2000: 241), expanded further on his research by identifying five steps of creating new knowledge within the context of knowledge creation enablers specifically tailored for tacit knowledge. The first step is the socialisation part of knowledge. In order to socialise effectively and then share tacit knowledge, the organisation must create the time, space and expectation for

individuals to come together to exchange experiences. Von Krogh *et al.* (2000: 222) stated that these moments of exchange may be self-organised or company-organised and tend to be fairly informal gatherings but with an expressed purpose of exchanging experiences and tacit knowledge.

The exchange of tacit knowledge now has to evolve into making the knowledge explicit. This is done by creating new concepts, either through metaphors, analogies, or diagrams. With the newly-created concepts on the one hand and the knowledge gaps and needs on the other hand, management has to make an organised effort to purposefully link these two aspects (Lam, 2000: 490). These new concepts now have the possibility of contributing to organisational intent (vision, objectives, and performance expectations). Mushtag and Bokhari (2011: 20) added that during this stage it is clear how tacit knowledge is made explicit. This is a process of dialogue and collective reflection with the intention, not of buying into one person's experience or knowledge, but rather of coming up with something new and innovative that can be used to address knowledge gaps.

Successful companies do not just solicit random concepts from its people, but rather seek to generate new ideas and concepts that are aligned with and contribute to the organisation's vision, objectives and performance. During the third stage, therefore, every new concept must be justified (externalisation leading to combination) in terms of its ability to meet organisational intent.

According to Von Krogh *et al.* (2000: 219), the new knowledge now have to be drafted into a process, system or even a new product, and he calls this stage "building an archetype". Irick (2007: 24) added that something tangible that allows the organisation to engage with the new concept using its sensory capabilities – to see, feel, smell, hear, and even taste the new concept - needs to be created. The creation of a new SOP (standard operating procedure) by management of the sales force members of the pharmaceutical industry is a good example of building an archetype. These new standard operating

procedures for their teams will assist the teams in managing situations better in the field, leading to increased customer satisfaction. Building an archetype also allows for more detailed analysis of what it will take to produce and market the new concept – always in keeping within the organisational intent (Irick 2007: 24).

In keeping with the example used above, the final step identified by Von Krogh *et al.* (2000: 217), is where the standard operating procedure is tested in the marketplace and feedback is documented. The standard operating procedure will now be adapted and then finalised for official use in the field by team members. This finalised standard operating procedure is now ready to be transferred to other teams in the organisation and, therefore, the final step is called cross-levelling. Khanyile (2009) added that this new value-adding knowledge for the organisation does not simply manifest in the end result, but is also captured all along the way. The need to document and record new knowledge is very important and the need now arises to investigate the role that technology can play in enabling tacit knowledge sharing.

3.9.2 ICT as knowledge management enabling tool

Information and communication technology (ICT) is an important enabler of change into a knowledge economy. Computer systems and processes are critically important for recording and documenting tacit knowledge. This process of recording and documenting is important as tacit knowledge is effectively turned into explicit, recordable knowledge during this process. Besides playing a major role in knowledge creation and its application, ICT is also an important tool for both knowledge management and knowledge processing.

Hsu (2006: 326) stated that the rapid development of ICT during the 1990s had significantly improved the productivity and economic growth in countries that practised it such as the USA. As a result, many of the "new economy" countries, including Malaysia, had taken steps to transform themselves from production-

based economies to knowledge-based economies (Hsu, 2006: 335). In advanced economies such as the USA, more than 60% of the workforce comprises knowledge workers. Well-developed ICT infrastructures and the ability to use ICT will not only help to improve productivity by reducing the production time, but also will contribute to disseminating information more efficiently and cost-effectively around the globe.

The diagram below (Figure 3.7) is a summary of how tacit knowledge sharing may lead to competitive advantage and what the important factors for consideration are.

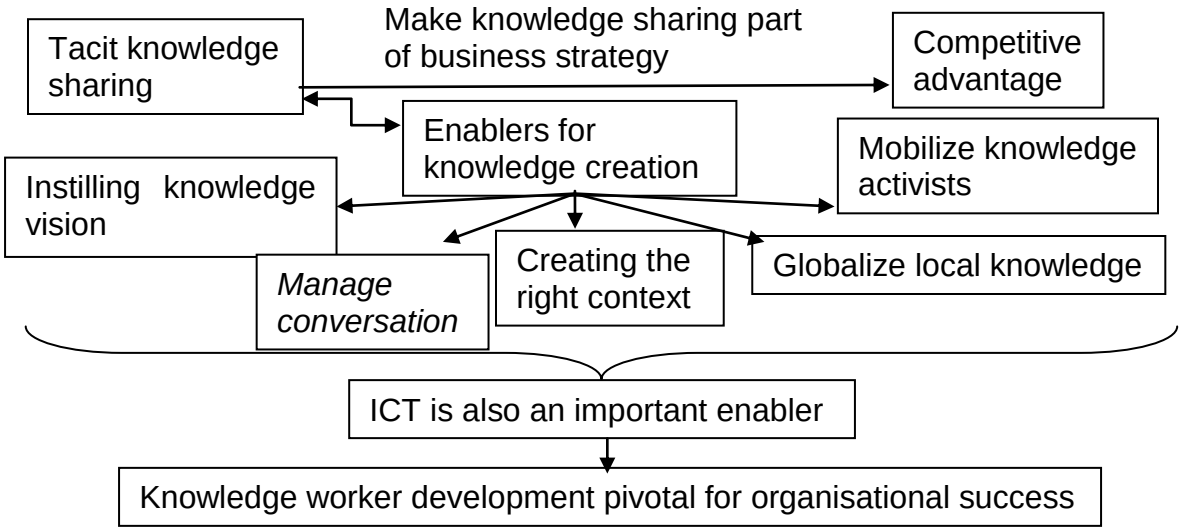
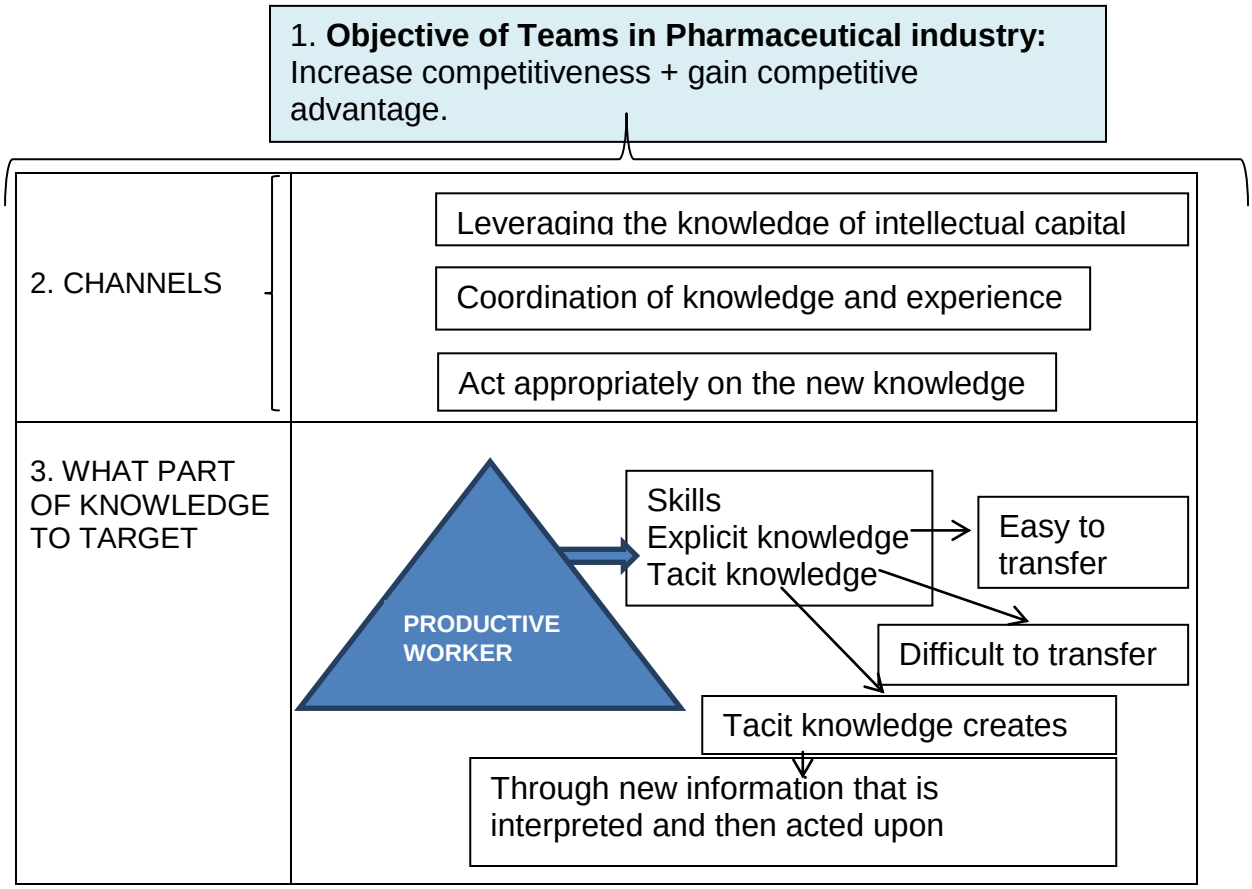


Figure 3.7: Tacit knowledge sharing leading to competitive advantage

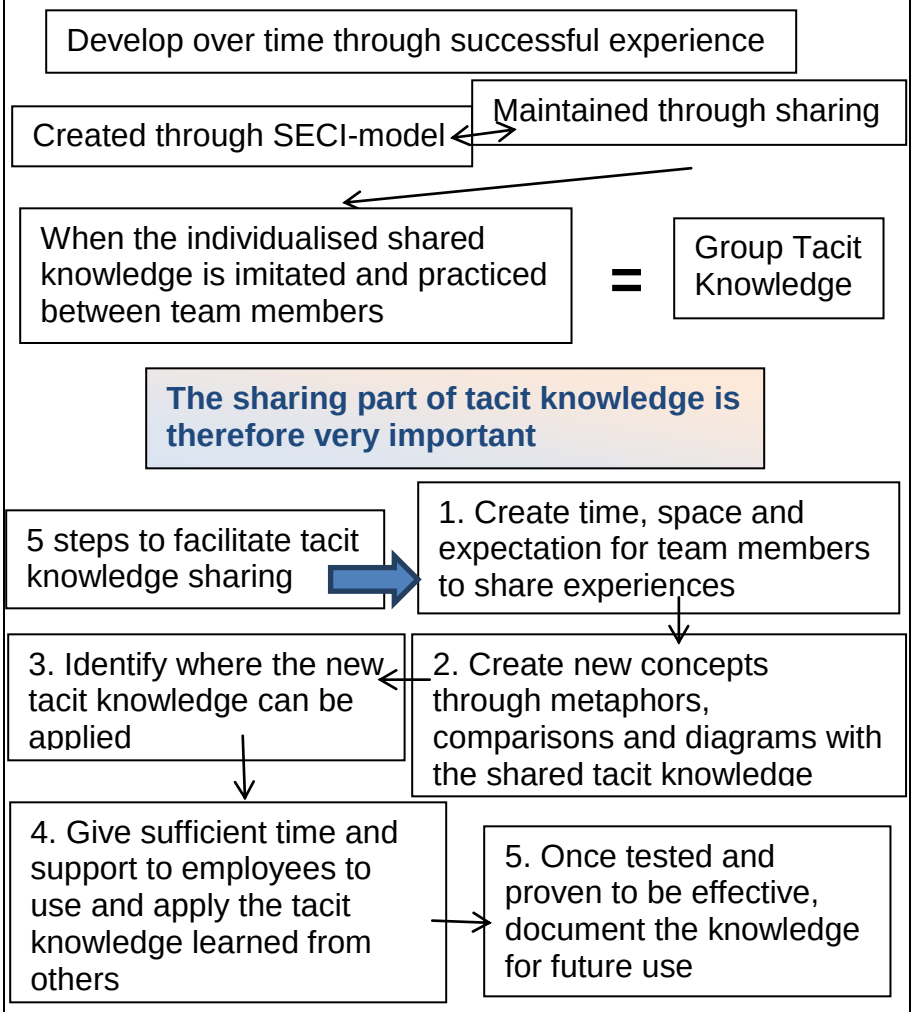
In view of the above, tacit knowledge sharing initiatives need to have a clear business purpose, as knowledge sharing can be tied to the business by directly making knowledge sharing part of the business strategy. It is evident from the above that the knowledge worker is one of the most vital elements in the wealth-creation process and is a major determinant of the rate of economic growth of the knowledge economy. Further research is now required to investigate the tacit knowledge sharing enablers as well as barriers specific to the sales force of the South African pharmaceutical industry.

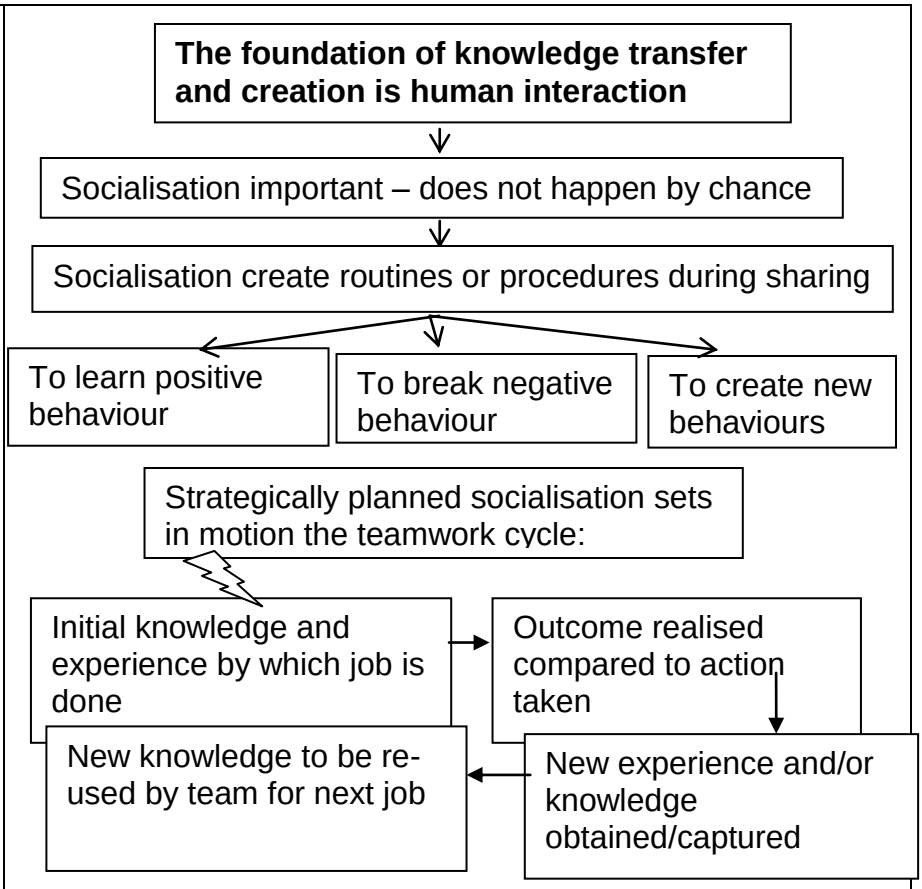
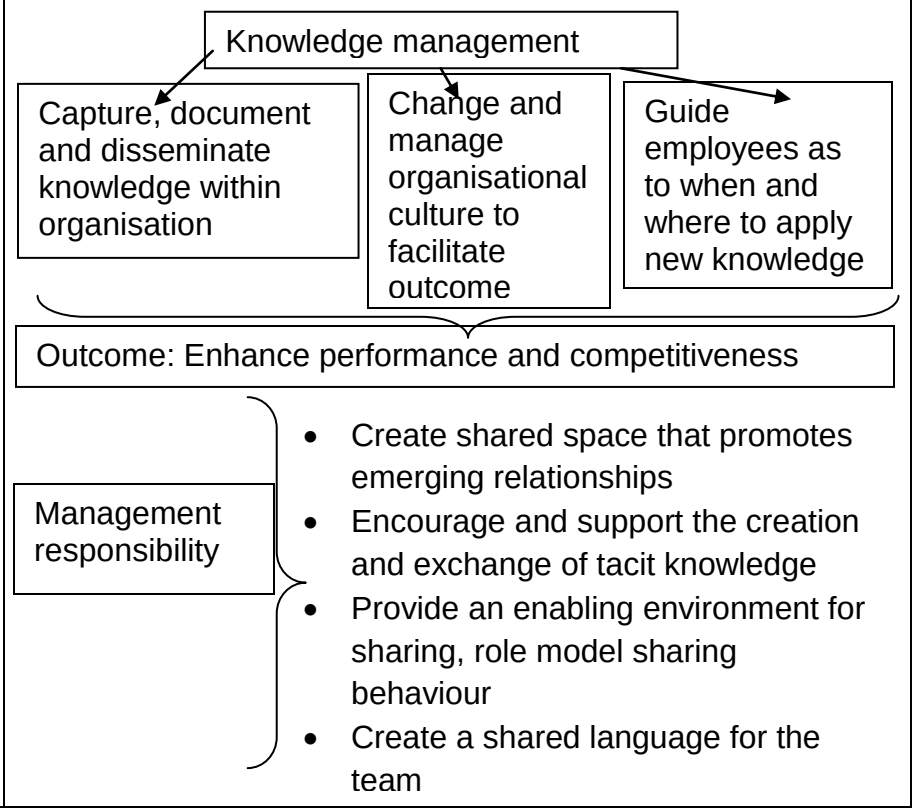
3.10 MODEL FOR TACIT KNOWLEDGE SHARING (EXTENSION PHASE 1)

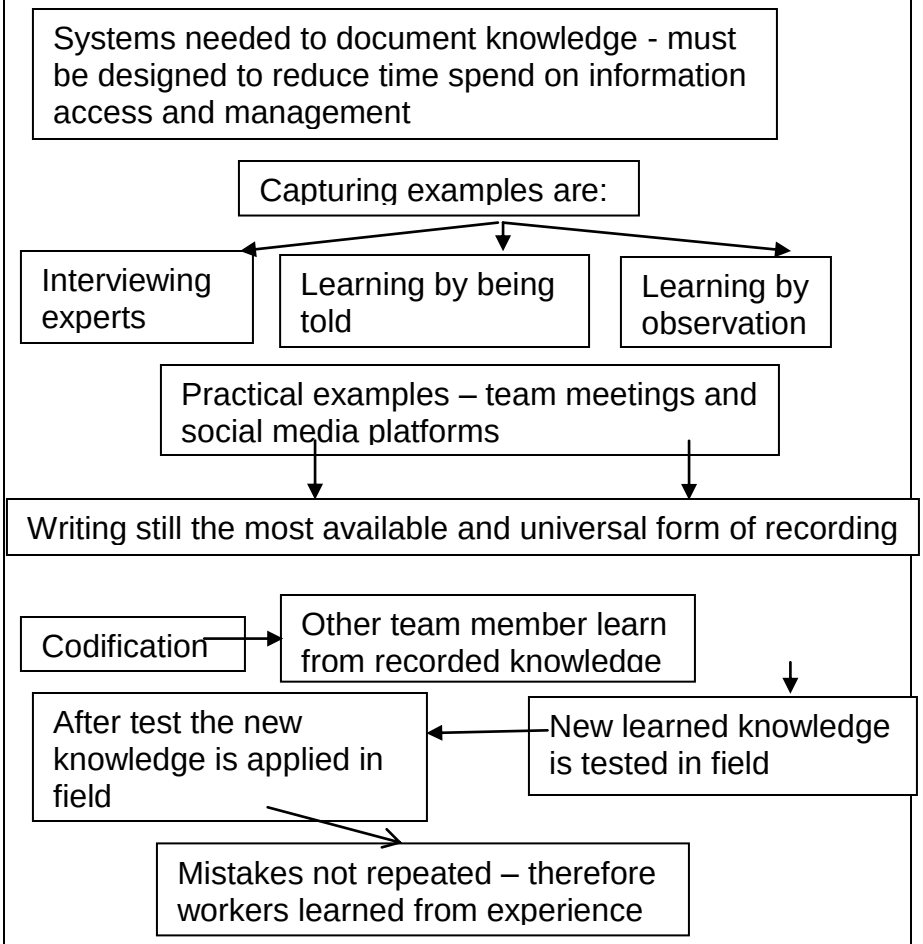
In this chapter tacit knowledge sharing was explored as well as its influence on employee productivity. This literature review was based on a grounding perspective of the pharmaceutical industry in South Africa, as well as what employee productivity entails in this industry. The sales force was defined as knowledge workers and the investigation was further extended to the multi-cultural South African workforce and how culture influences knowledge sharing in an organisation. In Chapter 2 the initial phase of a new model for the sharing of tacit knowledge for the sales force of the South African pharmaceutical industry was proposed. This chapter expanded on this model with extension phase one as the following figure (Figure 3.8) will indicate.



4. TACIT KNOWLEDGE CREATION

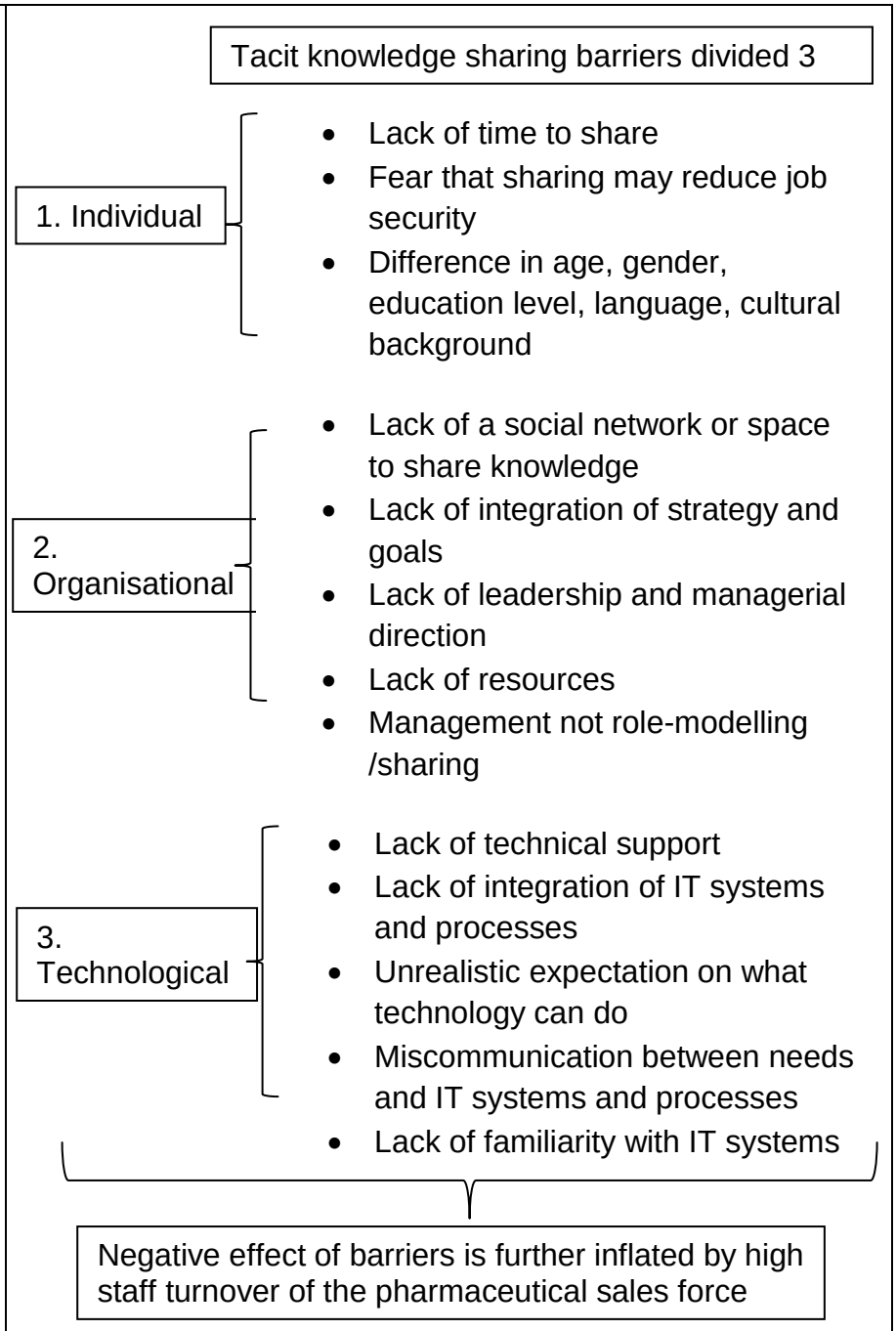


5. IMPORTANCE OF SOCIALISATION IN TERMS OF TEAMWORK AND CREATIVE ROUTINES	
6. Knowledge management	

7. CAPTURING, RECORDING AND CODIFY TACIT KNOWLEDGE	

8. Enablers of tacit knowledge sharing	Enablers for tacit knowledge sharing	• Make tacit knowledge sharing part of business strategy • Establish a vision to share knowledge in the organisation • Clear direction required for where team is heading • Manage the socialisation part of sharing • Stimulate sharing by knowledge activists • Create the right context for sharing tacit knowledge • Create the right environment by stimulating socialisation and sharing • Record and document the shared knowledge • Align goals with knowledge sharing strategy • Managers need to communicate the benefits of knowledge sharing practices • Clearly identify employees in need of knowledge sharing as well as what knowledge they require • Create time, space and expectations for team members to come together and share experiences • Provide adequate technological support for knowledge sharing • Making a connection between sharing tacit knowledge and practical business goals can overcome cultural barriers • Stress knowledge sharing from the start for new employees • Build knowledge sharing into routine appraisal

9. Barriers


Tacit knowledge sharing barriers divided 3
1. Individual
Lack of time to share
Fear that sharing may reduce job security
Difference in age, gender, education level, language, cultural background
2. Organisational
Lack of a social network or space to share knowledge
Lack of integration of strategy and goals
Lack of leadership and managerial direction
Lack of resources
Management not role-modelling /sharing
3. Technological
Lack of technical support
Lack of integration of IT systems and processes
Unrealistic expectation on what technology can do
Miscommunication between needs and IT systems and processes
Lack of familiarity with IT systems
Negative effect of barriers is further inflated by high staff turnover of the pharmaceutical sales force

10.Outcomes of successful tacit knowledge sharing	Effective tacit knowledge sharing will lead to the following: • Enhanced workforce efficiency • Increased competitive advantage • Enhanced capabilities of sales force • A more effective sales force • Sales force better prepared and more effective Sustainable competitive advantage for the entire organisation

Number 1: Objectives of teams in the pharmaceutical industry; number 2: Channels; and number 3: Which part of knowledge to target, were confirmed in this chapter and therefore remain the same as in Chapter 2.

Number 4: All the aspects discussed regarding tacit knowledge creation were confirmed with 5 steps added to facilitate tacit knowledge sharing. During these 5 steps, the creation of time and space to stimulate and facilitate tacit knowledge sharing is again highlighted. After new concepts have been created, management needs to identify where the new tacit knowledge can be tested and applied. Enough time must be allowed in order to evaluate whether this new knowledge is in fact helpful before it will be documented for other team members to capitalise on.

Number 5: The importance of socialisation was confirmed and highlighted in Chapter 3, and it is important to note that socialisation does not happen by chance. Management needs to take cognisance of this in order to plan socialisation activities better.

Number 6: The importance of knowledge management was also emphasised with numerous management responsibilities highlighted. Management is responsible for creating a shared space that

promotes emerging relationships, encourages and supports the creation and exchange of tacit knowledge, creates a shared language for the team, and where role-model sharing behaviour can be demonstrated. The most important responsibility of management is to create and provide an enabling environment for sharing to take place.

Number 7: All aspects of capturing, recording and codification of tacit knowledge were confirmed in Chapter 3. The objective of these systems was confirmed as reducing the time spent on information access and management.

Number 8: The main contribution of the literature review reported on in Chapter 3 was to identify and streamline the possible enablers and barriers to tacit knowledge sharing for the sales force of the South African pharmaceutical industry more effectively. The applicable enablers were identified as:

a. Making tacit knowledge sharing part of business strategy
b. Establishing a vision to share knowledge in the organisation
c. Providing a clear direction for where the team is heading
d. Managing the socialisation part of knowledge sharing
e. Stimulating sharing by knowledge activists
f. Creating the right context for sharing tacit knowledge
g. Creating the most supportive environment for stimulating socialisation and sharing
h. Recording and documenting the shared knowledge
i. Aligning goals with the knowledge-sharing strategy
j. Managers communicating the benefits of knowledge-sharing practices
k. Clearly identifying employees in need of knowledge sharing, as well as what knowledge they require

l. Creating time, space and expectations for team members to come together and share experiences
m. Providing adequate technological support for knowledge sharing
n. Making a connection between sharing tacit knowledge and practical business goals to overcome cultural barriers
o. Stressing knowledge sharing from the start for new employees
p. Building knowledge sharing into routine appraisals.

Number 9: Barriers in the way of effective tacit knowledge sharing where divided into three categories, namely individual, organisational and technological barriers. Individual tacit knowledge-sharing barriers include:

a. Lack of time to share
b. Fear that sharing may reduce job security
c. Difference in age, gender, educational level, language, cultural background
d. Poor communication skills
e. Lack of trust.

Organisational tacit knowledge-sharing barriers include:

a. Lack of a social network or space to share knowledge
b. Lack of integration between strategy and goals
c. Lack of leadership and managerial direction
d. Lack of resources
e. Management not role-modelling sharing
f. Lack of rewards and recognition
g. High staff turnover.

Technological tacit knowledge-sharing barriers include:

a. Lack of technical support
b. Lack of integration of IT systems and processes
c. Unrealistic expectations of what technology can do
d. Miscommunication between needs and IT systems and processes

e. Lack of familiarity with IT systems.

It must be noted that one of the most important barriers to effective knowledge sharing was identified as the high staff turnover of the pharmaceutical sales force.

Number 10: Many positive outcomes of successful tacit knowledge sharing were identified and discussed in this chapter, such as:

a. Enhanced workforce efficiency
b. Increased competitive advantage
c. Enhancement of the capabilities of the sales force
d. A more effective sales force
e. A better prepared and more efficient sales force.

Generating value from sales force members' knowledge assets involves sharing of tacit knowledge among employees, as the true value of knowledge lies in the sharing of it. The importance of tacit knowledge sharing in promoting workforce efficiency is a crucial factor to recognise in becoming more productive. Deploying tacit knowledge can add value and enhance the capabilities of the entire sales force, thereby leading to sustainable competitive advantage for the organisation.

3.11 CONCLUSION

The interplay of tacit and explicit knowledge is a critical factor in organisational learning and it is the role of managers to contribute to this interplay of tacit and explicit knowledge, and to act as "knowledge brokers" within the organisation. The primary task of managers is the conversion of tacit, human capital into explicit, structural capital and it is clear from the above discussion that tacit knowledge sharing will lead to sustainable competitive advantage if handled in an effective way. This chapter has examined several potential ways to observe and manage the creation and exchange of tacit knowledge within an organisation and how this may be beneficial for the sales force of the pharmaceutical industry.

Productivity is a key determinant in the success of any organisation. This holds true also in the case of knowledge-intensive organisations such as the pharmaceutical industry. There are several reasons why understanding more about tacit knowledge is so valuable and important for the sales force of the pharmaceutical industry in South Africa. First, competition in the pharmaceutical industry is increasing to the extent that managers, salespeople and companies have to use their total talent to succeed. Total talent is the combination of aptitude, ability, explicit knowledge, and tacit knowledge. It is simple to conclude from the above discussion that the sharing of tacit knowledge will lead to increased productivity and efficiency of the sales force (also *cf.* Britt, 2007), and then, in particular, of the sales force of the pharmaceutical industry.

It is therefore important for managers in the pharmaceutical industry of South Africa to take into account all the barriers that might have a negative impact on the effectiveness of knowledge sharing, as well as to leverage all the knowledge-sharing enablers to achieve the sought-after competitive advantage that tacit knowledge-sharing possesses. The influence of the individual, national and organisational cultures cannot be underestimated, especially in the culturally diverse South African working environment. Management needs to acknowledge the important value that effective tacit knowledge sharing holds for the sales force in the South African industry and assign the necessary attention to the development of this type of knowledge in their knowledge workers.

The problem described necessitated further research as it was regarded essential to enquire from respondents in the South African environment whether these findings of the literature review would be confirmed for the sales force of South African pharmaceutical organisations. Questions regarding what management actions might improve tacit knowledge sharing (or create barriers) needed to be answered. In this context the cultural diversity of the South African workforce also had to be better understood and investigated. Answers were also

required as to what the needs and barriers for optimising tacit knowledge for sales force members in the South African pharmaceutical industry might be. The expectations of management and sales force members in the pharmaceutical industry in terms of their contribution to optimal tacit knowledge sharing needed to be investigated. At this stage of the study it was therefore apparent that the literature review had to be extended to an empirical investigation. For this purpose a mixed-methods study, quantitative as well as a qualitative, was decided on, and this will be discussed in the following chapter (Chapter 4).

CHAPTER 4

RESEARCH DESIGN

4.1 INTRODUCTION

The previous two chapters provided an overview of literature on the human resource issue of tacit knowledge sharing in general and, specifically, for the sales forces. The possible influence of tacit knowledge sharing as a productivity and efficiency enabler was discussed. It was confirmed that the sharing of tacit knowledge may be an important contributing factor in the success of the sales forces, should it be incorporated directly into the business strategy.

The next step in the study was to test the dominant trends that were brought forward in the literature review in order to see if those findings are applicable to the sales force of the South African pharmaceutical industry. This was done by means of a quantitative analysis of which the details are discussed in Chapter 5 and a qualitative analysis discussed in Chapter 6. In this chapter the research design and methodology of both methods employed in this study will be attended to, including the sampling and selection of participants, data collection and analyses of data.

4.2 RESEARCH APPROACH AND DESIGN

Currently two well-known and recognised approaches to research are in use, namely the qualitative and quantitative approaches (Fouche and Delport, 2002: 77). The aim and objectives of this study necessitated a **mixed methods** approach, that is, methods from both the quantitative and qualitative approaches were applied. According to Bak (2004: 24) a research design is a plan, strategy

and structure according to which an investigation takes place, so conceived as to obtain answers to research questions or problems.

The quantitative research design adopts a post positivist approach by using numbers and statistical analysis to quantify and provide an explanatory perspective of the phenomena (Ary *et al.*, 2002: 22), while the qualitative investigation is an interpretive inquiry that explores a human issue by collecting ideas and opinions and analysing the words and responses of people (Creswell, 1998: 15) – in this case, the knowledge of people.

4.2.1 Selecting the method

A profound literature study for the theoretical exposition and the grounding perspective of the issues at stake was undertaken and has been discussed in chapters two and three. For the empirical investigation for the purposes of this study a mixed-method approach was adopted, as it was envisaged that data would emerge from different angles, and a mixed-methods study contributes to the validity of a study (Creswell, 1999: 159).

In the convergence model, the researcher collects and analyses quantitative and qualitative data separately on the same phenomenon and then the different results are converged (by comparing and contrasting results) during the interpretation (Creswell, 1999: 160) as is shown by figure 4.1.

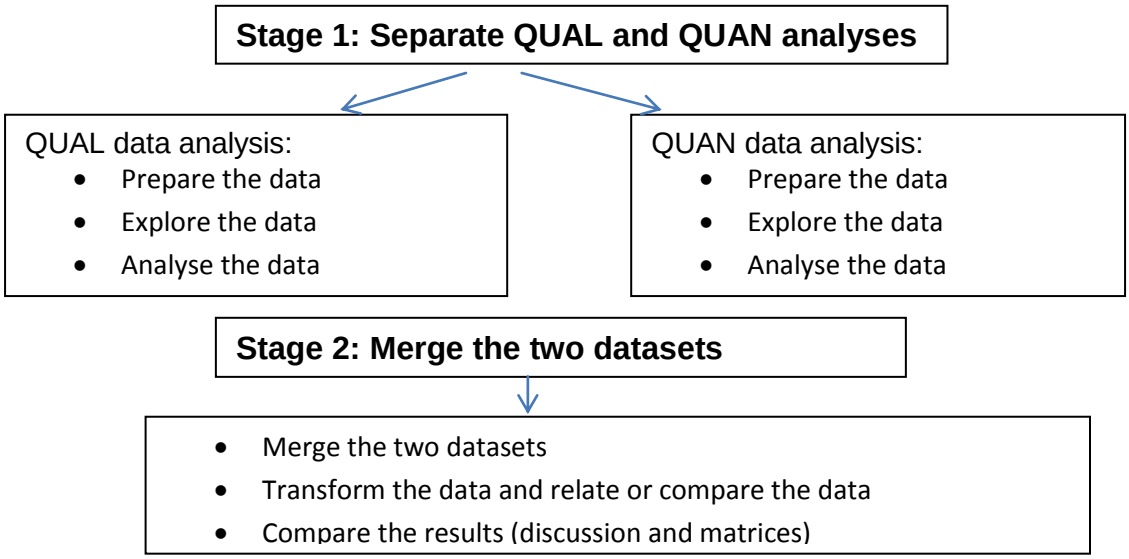


Figure 4.1: Concurrent data analysis in this triangulation design (Creswell & Clark, 2007: 137)

The two research approaches that were followed were:

- A quantitative investigation to collect data over a broad scope on employee productivity in the South African pharmaceutical organisation milieu and the influence that tacit knowledge sharing might have on sales force employees' tasks, as well as needs and barriers they might be experiencing.
- A qualitative investigation to provide more clarity on what sales force members and managers in the South African pharmaceutical industry viewed as factors contributing to optimising tacit knowledge sharing in their companies.

It was deemed appropriate to use a combination of both the quantitative and qualitative methodology for the purpose of this study. The aim was to obtain a multi-faceted perspective on the phenomena, resulting in the employment of two methods of data gathering and analysis.

Although tacit knowledge sharing is not a new field of study, optimising tacit knowledge sharing for the sales force of South African pharmaceutical organisations is a new relationship being explored. The quantitative phase of the research was designed to establish linkages between the key research variables. Qualitative interviews in turn made it possible to delve into what initiatives and enablers will lead to optimising tacit knowledge sharing and what were the areas that could be improved on.

The use of both quantitative and qualitative research methodology is often referred to as a form of triangulation and according to Hussey and Hussey (1997: 74), triangulation can overcome the potential bias and sterility of a single-method approach. Methodological triangulation was therefore relevant to this study as it refers to the use of both quantitative and qualitative data collection methods. Although the two methods explored different facets of tacit knowledge sharing and the data was converged to provide the full landscape of the issues at stake, the data sets had to “speak” to one another and jointly move the study towards its ultimate goal in developing a management model.

The two methods will contribute to the development issue of optimising tacit knowledge sharing. Even though the findings of the quantitative and qualitative investigations will only be discussed during the next two chapters, the following exposition will provide a scope of the empirical methods applied:

4.2.2 Data collection methods

4.2.2.1 Quantitative data collection: a self-administered questionnaire

A self-administered questionnaire (Appendix A) was used and an explanation on the reason for and value of the study and the importance of the questionnaire was provided on the first page of the questionnaire, which was handed out to sales force members and managers. Questionnaires are one of the best

impersonal observation techniques used for eliciting data (Leedy & Ormrod 2005: 187). Respondents are more likely to respond authentically because of anonymity. Questionnaires were used as it was not possible for the researcher to interview all sales force members in each of the organisations covered in the research population.

In view of this, it can be argued that the use of a survey is economical in terms of the time and resources involved, because it covers a larger population within a short time. Quantitative research tends to adopt a structured approach, in which all the issues to be focused on are decided in on advance (Creswell & Clark, 2007: 99). The question to be answered was *whether tacit knowledge sharing has a part to play in improving employee productivity in South African pharmaceutical organisations and what the challenges are.*

Neuman (2003) identified some requirements for the use of the questionnaire as measurement instrument and special care was taken during the study to meet these requirements. The study went through pilot testing to ensure that the respondents would be able to read and understand the questions. The pilot testing included ten individuals currently employed in the South African pharmaceutical industry that matched the sample criteria. The pilot testing was unsupervised as to mimic a natural setting. However, when done, a group session was held to discuss areas for improvement in order to establish the ease with which statements and questions could be understood, how easily the responses could be captured and how long it took the respondents to complete the questionnaire.

Sampling for both the pilot test as well as the official testing was done in a particular manner (as will be explained in section 4.2.4) so that the respondents selected were equipped with the required knowledge to answer the questions. Care was also taken that the respondents answered the questions or responded

to the items honestly. This was done by checking the responses of sales force members against answers of respondents in the same organisation.

The questionnaires were designed for the particular purpose of investigating the influence of tacit knowledge sharing on employee productivity, as well as knowledge sharing enablers and disablers in organisations and the investigative items were based on information collected from the literature review, as well as the objectives of the study.

The questionnaire was distributed to sales force members in the South African pharmaceutical industry. This study can be regarded as a cross-sectional study because it was done to provide both management and sales force members (representative level) an opportunity to express opinions, as this would contribute to incorporating tacit knowledge sharing in the organisations.

Likert scales with a maximum of 5 points were the most commonly used rating scale as the use of more points on a scale normally counteracts the error of central tendency. Husey and Husey (1997: 171) also mentioned that these rating scales allow respondents to give more discriminating responses. Some open-ended questions were also included to attempt obtaining creative alternatives to the sharing of tacit knowledge in the workplace.

4.2.2.2 Qualitative data collection: interviews

The aim of the study was to construct a strategic plan for the implementation of tacit knowledge-sharing practices in pharmaceutical companies in South Africa. The qualitative research therefore concentrated on *exploring the views of sales force members and managers about strategies that may contribute to optimising tacit knowledge sharing.* The data were gathered by means of personal interviews with respondents from a number of companies in the industry. In order to comprehend and explore the views of sales force members and management,

the improvement of tacit knowledge sharing on the employee productivity was driving the data gathering. The aim of the qualitative research was to investigate and identify challenges experienced by the sales force in the South African pharmaceutical industry that may hamper optimum tacit knowledge sharing. A further aim of the qualitative personal interviews was to explore the views of sales force members in the pharmaceutical industry on strategies that may contribute to optimise tacit knowledge sharing.

4.2.3 Development of the questionnaire and the interview schedule

4.2.3.1 Development of the Tacit Knowledge Sharing survey

A questionnaire was designed by the researcher and administered to sales force members and managers in the South African pharmaceutical industry. It was important that the structure of the questionnaire would be inviting as to motivate the respondents to complete it. The researcher thus ensured that, for the purpose of this study:

- short and precise questions were asked,
- alternative answers were provided,
- the questionnaire was divided into 6 sections (see Appendix A).

Biographical page: (7 items)
Section 1: Sources of tacit knowledge (5 questions)
Section 2: Assistance at organisations for employees (1 question)
Section 3: Benefits of tacit knowledge (3 questions)
Section 4: Barriers to tacit knowledge (3 questions)
Section 5: Enablers for tacit knowledge (2 questions)
Section 6: Tacit knowledge-sharing instruments in the organisation (6 questions).

For the purpose of this questionnaire, items were therefore selected with due reference to the literature study and the majority of items were formulated in such a manner to ensure relevance to the research study.

The following information was also given to the respondents:

- The first page provided a detailed explanation of the background to the research.
- It was explained that the questionnaire was part of a PhD study at the University of the Free Sate;
- The assurance was given that confidentiality would be maintained.
- The respondents were requested to answer all the questions.
- They were assured that their participation and co-operation were appreciated.
- They were informed that the completed questionnaires would be collected by the researcher, or could be submitted via electronic mail or fax.
- It was emphasised that the completion of the questionnaire was voluntary.

4.2.3.2 Development of the Tacit Knowledge Sharing interviews

The literature review revealed certain dominant trends in relation to tacit knowledge sharing. The focus of the interviews were to confirm and clarify some of the information obtained from the literature review. The participants involved in the interviews were experienced sales force members and managers. They are therefore experts in dealing with the knowledge of sales force members in different forms. Sales and marketing managers were also chosen as experts to be interviewed. During this phase, the respondents were probed on their experiences and needs with regard to the issues surrounding tacit knowledge sharing, identified by the literature review.

According to Neuman (1997: 617), qualitative methods involve more open-ended, free-response questions based on informal, loosely-structured interviews.

Cooper and Schindler (2003: 99) maintain that the relationship with the participants should include empathy, trust, contact between the researcher and the researched, and the participants are usually seen as co-researchers assisting to close the gaps of knowledge. Cooper and Schindler (2003: 100) also emphasised that qualitative investigations are time consuming, involve a small number of participants and are often used with subjective experience and social meaning.

De Vos (2002: 298-302) indicates that an interview may be structured or semi-structured. According to McMillan and Schumacher (2001: 42,443-446), qualitative interviews require asking truly open-ended questions. De Vos (2002: 303) continues to indicate that semi-structured questions help the researcher gain a detailed picture of the of the participant's beliefs about, or perceptions or accounts of, a particular topic. The researcher is also able to follow up particular interesting avenues of thought that may emerge during the interview. The participant is also able to give a fuller picture.

For the purpose of the study semi-structured, open ended questions were used to obtain insights into tacit knowledge sharing as well as the enablers and barriers for the sales force of the South African pharmaceutical industry (See Appendix B for the interview schedule). A few guiding questions were formulated so as to help the researcher to achieve his objective. These questions were motivated by the trends identified during the literature review.

4.2.4 Sampling

4.2.4.1 Sampling: Quantitative investigation

For the purpose of this study, employees operating in the sales milieu of the pharmaceutical industry were sampled by means of non-probability convenient sampling. According to Cooper and Schindler (2003: 198) carefully controlled

non-probability sampling can give acceptable results, and the reason for choosing non-probability sampling in this study was to overcome the non-response problem, as not all companies were willing to participate due to time constraints.

According to information from PIASA (Pharmaceutical Industry Association of South Africa) and SAMED (South African Medical Device Industry Association), there are approximately 135 companies operating in the pharmaceutical and medical device industry of South Africa (PIASA, 2011; SAMED, 2011). Ten companies operating in the South African pharmaceutical industry were sampled, yielding a target population of 800 sales force members. Two hundred questionnaires were distributed to sales force members, who were willing to participate. Judgment sampling was necessary within the context of this study in order to determine the pharmaceutical organisations that could fairly represent the South African pharmaceutical industry. The sample size was considered to be sufficient as the insights gained during this phase of the study will be supplemented by the insight acquired through the qualitative research process.

Most of the organisations were reluctant to participate and that is why only 200 questionnaires were distributed. The questionnaires were distributed by means of either electronic mail or in some instances, the researcher self-delivered printed versions to certain organisations in order to enhance the non-response problem. As mentioned, this was a self-administrative questionnaire that was seen as the most cost-effective method for securing feedback.

A total of 120 sales force members (60%) responded to the questionnaire. A small response sample size would limit the ability to generalise (Cooper and Schindler, 2003: 399); therefore, grounding the findings in the extensive literature survey was essential. However, the purpose of the study was not to generalise, but to gain insight into tacit knowledge sharing. Sales force members that

completed the questionnaires were self-motivated and voluntary participants of the study and completed the questionnaire outside of working hours.

It appears there is no conventional way of determining a representative sample size of the target population, as there are diverse views on this issue. Cooper and Schindler (2003: 399) define a target population as a group of people that share common characteristics from which the researcher aims to generalize his/her results. They stress the need for the researcher to describe an accessible population within the target population from which a sample is taken. As it has already been mentioned that generalisation was not the focus, sampling a group, who would be able to provide knowledgeable responses, were important.

In order to improve the representativeness of the target population, the study involved a diverse group of respondents. The sample of the population used in this research consisted of respondents that had been in their positions for more than two years and participants that had been in their positions for less than two years. It also consisted of sales force members from various race, sex, language and age groups in order to draw correlations between the groups and investigate tacit knowledge gained over time through experience and in social and cultural contexts. Even though the questionnaire was completed anonymously, respondents were asked to supply information regarding race and ethnic group, as diversity is acknowledged in this investigation. Cooper and Schindler (2003: 199) stated that if a sample has the same distribution on these relevant characteristics, then it is likely to be representative of the population regarding other variables over which we have no control.

The researcher was personally responsible for collecting most of the questionnaires after they had been completed by the employees at the sample companies with the intention of limiting the non-response error. Respondents also had the option to either e-mail or fax the questionnaire directly to the researcher.

One of the biggest problems with a questionnaire, according to Borg (1981: 86) and Ary *et al*. (1990:432), is a large non-response rate. For this reason, follow-up communication by means of electronic mail was sent out to volunteers to remind them of ways to submit the questionnaire. As mentioned, all of the questionnaires were either collected by the researcher personally or e-mailed and faxed directly to the researcher after a period of four weeks, eventually resulting in a 60% response rate.

4.2.4.2 Selection of participants: Qualitative investigation

The interview process was used asking participants specifically related questions at the sample organisations. Sales representatives, product managers, sales managers, division heads and managing directors were selected as participants. The candidates chosen for this investigation needed to possess insight into tacit knowledge sharing. Five sales force members and five managers were sampled to participate in the qualitative investigation. Obtaining a sample from five sales force members and five managers at five different organisations was considered sufficient for the purposes of this research as the principle of theoretical saturation was closely kept in mind. One sales force member and one manager were sampled at each organisation totalling ten participants. Judgment sampling was utilised to determine the institutions and individuals that could fairly represent the South African pharmaceutical industry as well as the fact that the participants had to be willing to participate. After interviewing the ten participants, the results were similar and then the researcher knew that enough had been done.

The researcher followed up on particular interesting avenues of thought that emerged during the interviews. All participants were interviewed on a face-to-face basis by the researcher and although this was a time-consuming exercise, it was appropriate. The face-to-face interviews lasted on average 30 minutes and

this approach enabled the interviewer to delve into the level of detail required of this stage of the research and participants were also more responsive than may have been the case had the interview been conducted telephonically.

Accurate records were kept of all the participants' contributions by tape recording the interviews. After the interviews the participants' words were transcribed by the researcher. Coding of the key words and themes were done and the research followed a data driven approach in identifying similarities and differences.

4.2.5 Validity and reliability/credibility and trustworthiness

4.2.5.3 Validity: Qualitative investigation

A measuring instrument is valid if it measures what it is supposed to measure (De Vos 2002: 83). Neuman (2003: 43) further refers to the relation between validity and the respondents' ability to answer the questions posed in the instrument. The latter appeals to the content validity of the measuring instrument which should include items that provide adequate coverage of the issues under investigation. Cooper and Schindler (2003: 232) particularly claim that the inclusion of the "relevant items under study" is a prerequisite for content validity.

To ensure valid results, it is imperative that the content of the data-gathering instrument be representative of the body of knowledge of the scientific field that it covers (Huysamen 1993: 120). When these principles are applied to the questionnaire used in this survey, it simply means that the content covered by the questionnaire must be representative of the different aspects of the implementation of tacit knowledge sharing for sales force members in South African pharmaceutical organisations.

In order to enhance the content validity of the questionnaire the researcher based the questions upon a sound theoretical base as discussed in Chapters 2

and 3. By availing the questionnaire to the scrutiny of pilot testing, the researcher further contributed to its validity. Ten respondents were sampled during the pilot testing by means of non-probability convenient sampling. Particular care has been taken during the pilot testing stage by being careful about the choice of questions and their formulation in view of ensuring clarity and relevance. By pilot testing the data collection instrument before its actual administration the researcher allowed for modification and thus enhanced its validity. In order to enhance the practicality of the questionnaire, the questionnaire had detailed, clear instructions making it easy to complete, more convenient and improving interpretability.

4.2.5.2 Reliability: Quantitative investigation

Lankshear and Knobel (2006) perceive reliability as the stability of response to a data collection tool, irrespective of the number of times the data are administered to the same respondents. In other words, an instrument is considered reliable if it produces the same or similar results each time it is administered to the same respondents. The reliability of the self-constructed questionnaire the researcher used to collect data is therefore of importance for the value attached to the outcomes of the investigation. For the purpose of this study, it was a necessity to determine the reliability of the research data by means of the alpha coefficient and the data accumulated for this project revealing the following reliability coefficient per section:

Section	**Cronbach Alpha Coefficient**
1	0.674
2	0.644
3	0.687
4	0.719
5	0.700
6	0.683

A Cronbach Alpha coefficient score of 0.9 or more ($\alpha \geq 0.9$) indicates excellent internal consistency. A score of 0.7 to 0.9 ($0.7 \leq \alpha < 0.9$) indicates good internal consistency and a score of 0.6 to 0.7 ($0.6 \leq \alpha < 0.7$) indicates acceptable internal consistency. It is therefore apparent that the reliability of the sections in the self-constructed questionnaire used during the qualitative analysis yielded an acceptable to good internal consistency.

4.2.5.3 Credibility: Qualitative investigation

According to De Vos (2002: 83), a measuring instrument that measures what it is supposed to, is regarded as credible. For this reason, a comprehensive register was kept of the data gathered. For instance, the interviews were well documented. When conducting the interview, the researcher wanted to create an environment where the respondent could say whatever he/she wanted to and could take as much time as needed in order for this instrument to measure what it was supposed to. The principle of theoretical saturation was also closely kept in mind and this is where the data repeated itself, theoretical saturation was reached and the researcher knew that the search for new data could be terminated. The researcher also guarded against bias and perspectives that the researcher might instil in the participants, as well as their prejudices that may influence their responses, particularly taking into account the diversity of the participants. This was done by allowing the respondents to answer on their own and not mislead them into a particular direction with leading questions. The researcher only spoke during the interview in order to ask open-ended questions and to clarify some of the questions.

4.2.5.4 Trustworthiness: Qualitative investigation

Data is considered trustworthy if it produces the same or similar results until theoretical saturation had been reached which enhances trustworthiness. Saturation means that no new information or perspectives could be elicited; then

the researcher knows that enough data have been collected. Triangulation, where multiple methods (literature review, quantitative and qualitative investigation) are used to gain information, also increases the trustworthiness of the data in the qualitative studies.

After transcribing the interviews, the transcriptions were send back to the participants to check if they agreed with what has been written down. This was done to further enhance the trustworthiness of the data for the qualitative investigation – a first level of member checking.

4.2.6 Data analysis

Data analysis has multiple facets and approaches and is the process of inspecting, cleaning, transforming and modelling data. The goal is then to discover useful information and then suggesting conclusions. Data analysis encompasses diverse techniques under a variety of names, in different business, science, and social science domains in order to support decision making (Cooper and Schindler, 2003: 478). The most important step in analysing data is efficient data management (Dey 1993: 74). This implies that data collected must be of high quality and must be fully and accurately recorded.

The following principles and practices (Cooper and Schindler, 2003: 369) are also of utmost importance in the analysis and interpretation of data:

- the analysis process must be systematic and comprehensive, but not rigid;
- reading all the data and dividing the data into smaller and more meaningful units or categories.

4.2.6.1 Data analysis: Quantitative investigation

The following procedures were used in analysing data collected by means the questionnaire:

- the headings used in the questionnaire were also used in the data analysis,
- the various alternatives were presented in a table form;
- the data were statistically analysed by means of the SPSS version 16 program to provide insight into the significance value of the responses
- the number of responses for alternatives was also calculated to provide percentile scores, in order to determine the percentile ranks of responses, and
- the findings, recommendations and conclusions are discussed in chapter 7.

The source of the data was primary in nature and to this end therefore, a non-experimental survey research technique was considered to be appropriate given the time and cost constraints of the research project (Welman and Kruger, 2001).Exploratory data analysis or descriptive statistics proved useful in summarizing the data and providing detailed descriptions through tables and graphs. Presenting the data in the form of tables, charts, graphs, and other diagrammatic forms enabled patterns and relationships to be discerned that are not apparent in the raw data.

Frequency distribution tables as well as raking of importance and establishing mean scores on responses have been utilised to depict the profile of respondents across various criteria. These methods proved effective in establishing the most common responses of the sample to the survey statements. The standard deviation measure was also used in some cases to provide information on the distribution of data around the mean. A standard distribution of between -1 and +1 usually indicates a normal distribution.

Confirmatory data analysis also referred to as inferential statistics were used in term of correlations as to measure the strength of associations between the research variables. The correlation results indicate whether the relationship is positive or negative (-) and the value itself represents the strength of the relationship. The closer the value is to 1, the stronger would be the association between the variables. The correlation between groups identified such as respondents that had been in their position for a certain amount of years and their willingness to share tacit knowledge were calculated. Other differences of means such as the gender, age and different ethnic groups were also drawn to explore the diversity of the South African context. For this purpose the study also incorporated amongst others the use of t-tests and ANOVA's.

4.2.6.2 Data analysis: Qualitative investigation

Qualitative studies depend on the presentation of solid descriptive data, through which the reader can gain an understanding of the meaning of the phenomenon studied (De Vos 2002: 339). The data analysis is therefore most important, as it is the process of bringing "order, structure and meaning to the mass of collected data" (De Vos 2002: 339).

Qualitative investigations are time consuming, although they involve a smaller number of participants, and are often used with subjective experience and social meaning. As data are collected in the form of words with rich descriptions, it will give a feel for rich social settings (Silverman 2000: 101). Responses extrapolated through these interviews have been analysed through informal methods (Husey and Husey, 1997) where the data was categorised in terms of specific research propositions that they relate to. The responses were assessed in order to see if there were common themes and patterns.

As the participants were probed on their experiences and needs during the interviews, trends were firstly identified during the data analysis stage. As mentioned during the data collection stage, accurate records were kept of all the responses by allowing for sufficient time during the interview to document the responses. After the interviews were documented, everything were transcribed and written down and then coding was done after transcribing everything. Here the researcher looked for key words to identify similarities and differences. In the last stage, the researcher reported on all the findings. The researcher looked for general trends and reported and quoted interviewees by expanding on the tacit knowledge sharing model for sales force members.

4.2.7 Verification of the final model

The final synthesised model (cf. Fig 7.1) for optimising tacit knowledge sharing was then sent to five managers in the South African pharmaceutical industry. As the final synthesised model presents the findings ensuing from the study to serve as directive for the optimisation of tacit knowledge sharing, the model were sent to five managers of five different pharmaceutical companies in order to get their comments and input into the validity and application of the model in their workplace.

Judgment sampling was again utilised to determine the institutions and individuals that could fairly represent the South African pharmaceutical industry for this verification process. The five managers used during the qualitative investigation was therefore again used to verify the model at their organisations. Obtaining comments and feedback from five sales managers at five different organisations was considered sufficient for verifying the usefulness and practical application of the model for the sales force in the South African pharmaceutical industry. Accurate records were kept of all the responses and a summary of feedback will be supplied in Chapter 7.

4.2.8 Research limitations

4.2.8.1 Research limitations: Quantitative investigation

The use of non-probability sampling introduces some form of bias as the research tends to converge around similar individuals. The selected sample was also not necessarily fairly representative of the South African pharmaceutical industry.

4.2.8.2 Research limitations: Qualitative investigation

A semi-structured interview method required expertise on the part of the interviewer to ensure that information relevant to the research was obtained. The data collection was therefore value-laden in terms of the interviewers' own interpretation and assumptions. This does introduce bias into the research.

4.3 CONCLUSION

The chapter described the research design for both the quantitative and qualitative research done during this study. The use of both quantitative and qualitative approaches was considered beneficial in that the findings could be integrated to overcome the inherent weaknesses of each approach. In doing so, the conclusions drawn from analysing the data could be grounded more strongly. During the mixed methods approach followed in this study, the researcher based knowledge claims on pragmatic grounds where it employed strategies of inquiry that involve collecting and analysing data simultaneously to best understand research problems. The data collection and analysis involved both numeric information (e.g., through questionnaires) as well as text information (e.g., interviews) so that the final data represented both quantitative and qualitative information.

The next chapter (Chapter 5) will deal with the findings of the quantitative research with the focus of identifying challenges experienced by the sales force members and management in the South African pharmaceutical industry that may hamper optimum tacit knowledge sharing. In Chapter 6 the findings of the qualitative research are discussed with the aim of exploring the views of sales force members and managers in the pharmaceutical industry on strategies that may contribute to optimise tacit knowledge sharing. This will all contribute to the final conclusion chapter (Chapter 7) where the researcher will aim to conduct a strategic analysis of managing tacit knowledge sharing in the pharmaceutical industry in view of constructing a strategic plan for the industry.

CHAPTER 5

QUANTITATIVE INVESTIGATION: REPORT ON ANALYSIS AND FINDINGS

5.1 INTRODUCTION

During the empirical study the dominant trends found in the literature review were tested in order to determine if these findings hold true for the sales force of the South African pharmaceutical industry. A quantitative investigation was done to collect a broad scope of data on employee productivity in the South African pharmaceutical organisation milieu and the influence that tacit knowledge sharing may have on sales force employees' tasks, as well as enablers, needs and barriers they might be experiencing. According to the literature review, the primary task of managers is the conversion of tacit, human capital into explicit, structural capital and it was apparent from the literature review that tacit knowledge sharing would lead to sustainable competitive advantage if handled in an effective way.

The research done during the literature review indicates that it is important for managers in the pharmaceutical industry of South Africa to take into account all the barriers that might have a negative impact on the effectiveness of knowledge sharing. It is also essential to leverage the knowledge sharing enablers to achieve the sought after competitive advantage that tacit knowledge sharing possesses. The influence of individual, national and organisational cultures cannot be underestimated, especially in a culturally diverse South African working environment. In Chapter 2, a new model for sharing tacit knowledge for the sales force of the South African pharmaceutical industry was proposed and Chapter 3 expanded on this model. The findings from the following two chapters – the quantitative and qualitative research – were used to confirm the literature

review findings and then also to further expand the model and make it applicable to the sales force of the South African pharmaceutical industry. This chapter therefore addresses the following problem questions:

- What needs and barriers for optimising tacit knowledge do sales force members and managers in the South African pharmaceutical industry experience?
- What are the expectations of sales force members and management in the pharmaceutical industry in terms of their contribution to optimal tacit knowledge sharing in this industry?
- What management actions can be put in place to facilitate tacit knowledge sharing in the diverse South African pharmaceutical industry?

5.2 REPORT ON DATA COLLECTED DURING THE QUANTITATIVE INVESTIGATION

5.2.1 Biographical data

In this section of the questionnaire information was collected on respondents' age, race and gender, and post occupied at the time of the investigation. The results of this biographical section are depicted in figures 5.1-5.7, each followed by a brief rendering in words.

5.2.1.1 Age

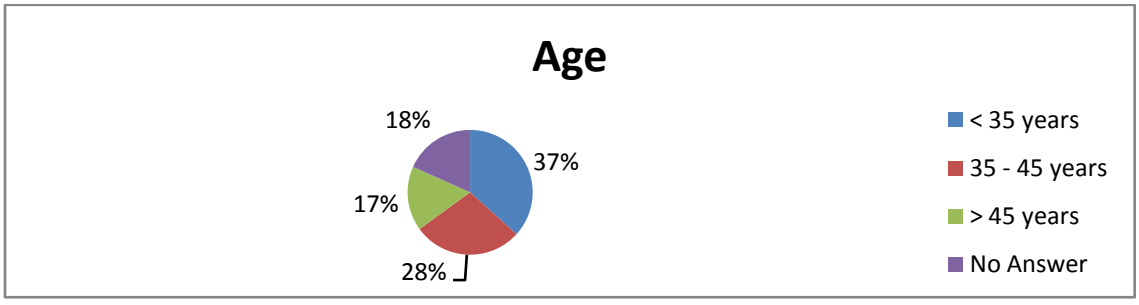


Figure 5.1: Age

Of the 120 respondents who answered, 37% were under the age of 35 years, 28% were between the ages of 35 and 45 years, 17% were over the age of 45 years and 18% of the respondents did not answer the question.

5.2.1.2 Race

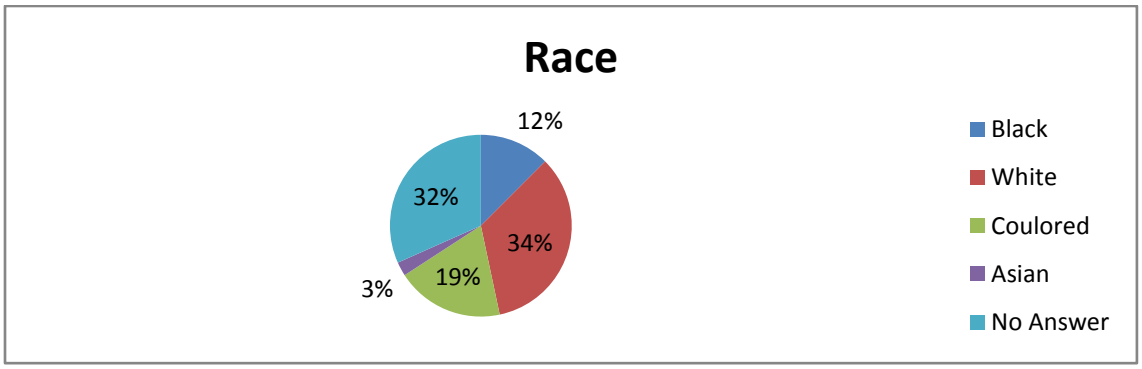


Figure 5.2: Race

Of the 120 respondents, 12% indicated their race as black, 34% as white, 19% as Coloured and 3% as Asian. 32% of respondents chose not to answer the question.

5.2.1.3 Gender

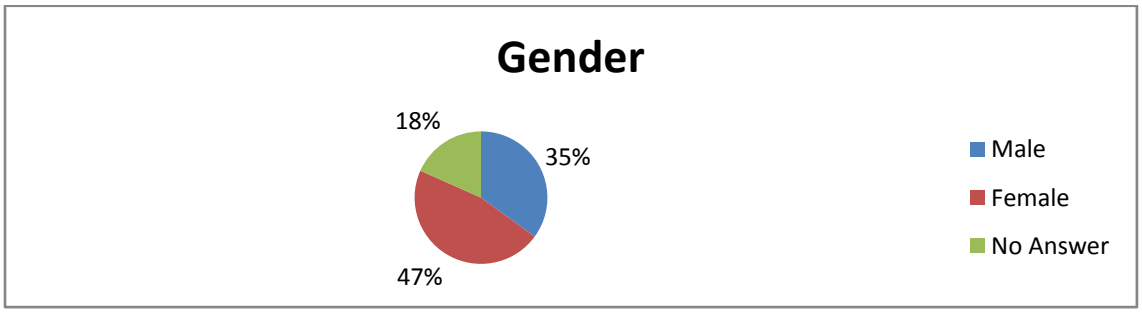


Figure 5.3: Gender

Of the 120 respondents 35% were males and 47% were females; 18% of the respondents chose not to answer the question.

5.2.1.4 Highest qualification

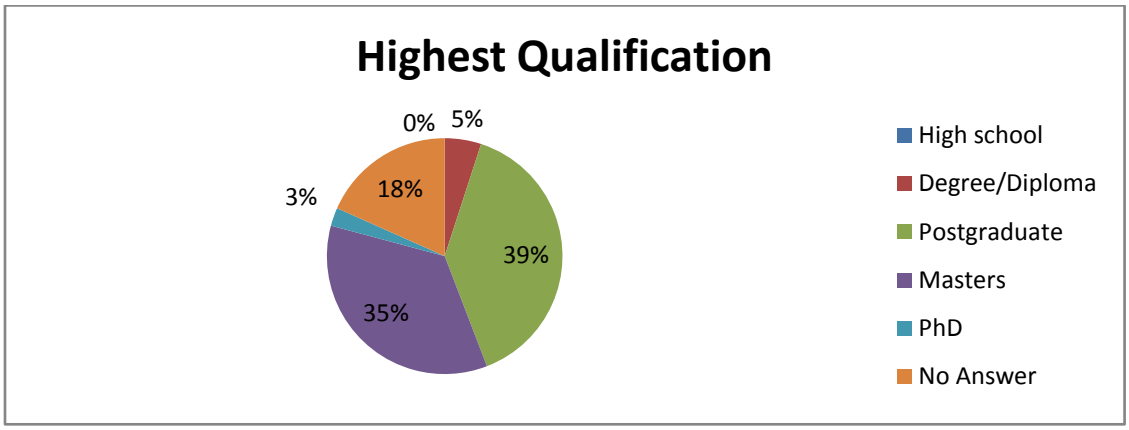


Figure 5.4: Highest qualification

Of the 120 respondents no one indicated that a high school certificate was their highest qualification, 5% indicated that a higher education degree or diploma was their highest qualification, 39% indicated a postgraduate qualification as their highest qualification, 35% had master's degrees, and only 3% indicated that they had a PhD. Again 18% of the respondents did not answer this question.

5.2.1.5 Position in organisation

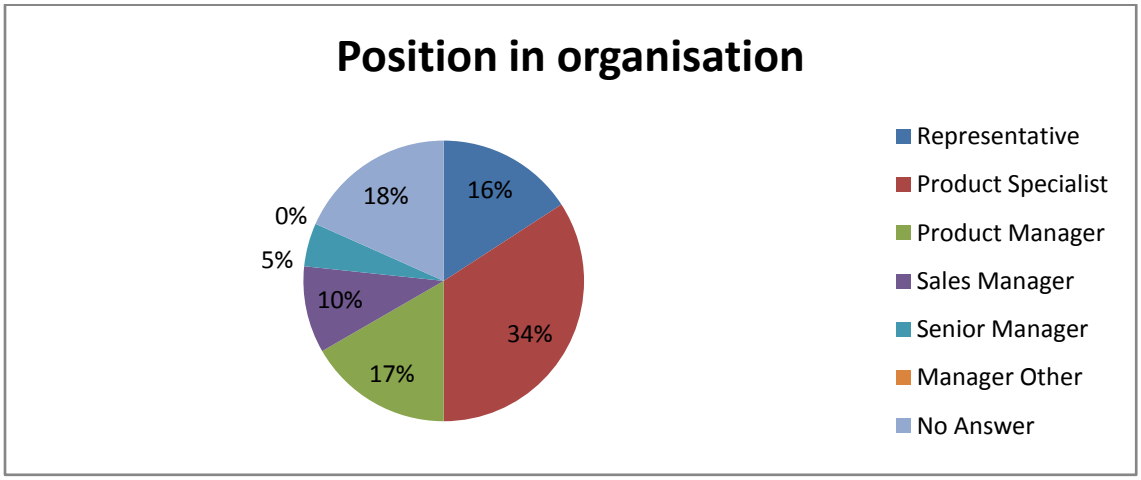


Figure 5.5: Position in organisation

The 120 respondents (n=120) indicated that 16% of them were representatives, 34% were product specialists, 17% were product managers, 10% were sales managers and 5% were senior managers. No one indicated that he/she was a manager in another type of position, and 18% did not respond.

5.2.1.6 Years in organisation

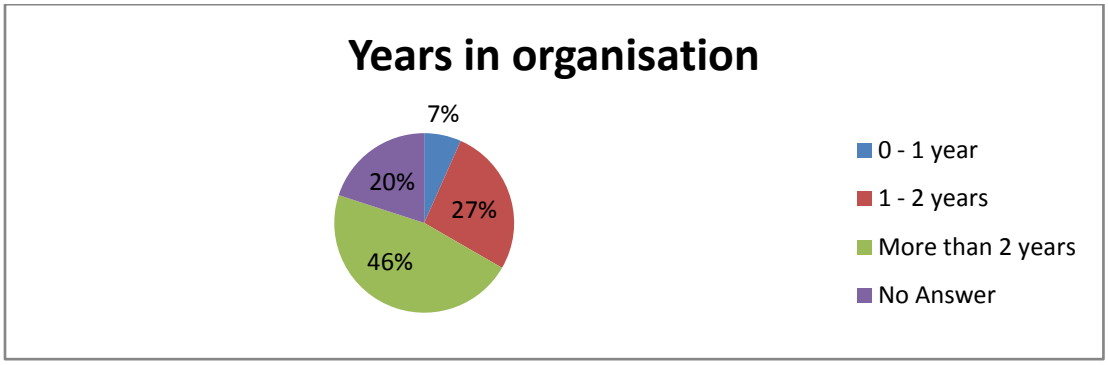


Figure 5.6: Years in organisation

Regarding their time of employment, 7% had been employed in the particular organisation for less than a year, 27% had been working in their organisations for between 1 and 2 years and 46% had been with their organisations for more than 2 years. Twenty percent of the respondents did not answer the question.

5.2.1.7 1st Language

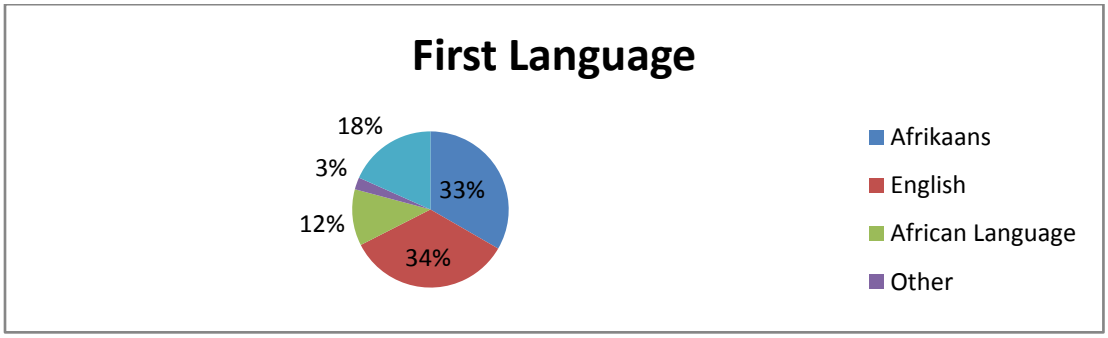


Figure 5.7: 1st Language

Afrikaans was indicated as their first language by 33% of the respondents, while 34% indicated English and 12% African languages. Three percent indicated their

language as other (two were German and one was French) and 18% of the respondents did not answer the question.

5.2.2 Section 1: Knowledge sharing initiatives

The primary aim of this section was to gain information regarding the knowledge sources that had been useful in the respondents' striving to achieve success in their work. The investigation was aimed at determining which knowledge sources were useful for managing themselves, managing their peers and supervisors, and managing their sales activities and customers.

The first item (question 1.1) investigated whether initiatives existed at the sample organisation to freely share knowledge among employees. The responses to this item are depicted in figure 5.8.

Figure 5.8: Initiatives at organisation to freely share knowledge

Apparent is that 47% of the respondents were not sure whether in fact such initiatives existed in their organisations and 36% indicated that knowledge-sharing initiatives did exist in their organisations. Only 17% of the respondents indicated that no knowledge-sharing initiative existed in their organisations. Therefore, only 36% of the sampled respondents knew that knowledge-sharing initiatives existed in their organisations.

In question 1.2 the respondents were asked to indicate how valuable the listed sources of information were (or would be) to help them do their work. They had to indicate their opinion on a scale of 1-5, where 1 is not valuable and 5 is highly valuable. The information collected is summarised in Table 5.1 below. The mean score was calculated in order to rank the statements. This was done in order to determine which source was seen as most valuable in helping them do their work.

Table 5.1: Information sources to help in doing work effectively

(N = 120)	Not valuable (1)	Of Little value (2)	Unsure (3)	Valuable (4)	Highly valuable (5)	$\bar{X}$	Rank-ing
Training seminars and cycle meetings	6	4	11	71	28	3.9	1
Informal meetings with managers	2	7	29	53	29	3.8	2
Formal meetings with managers	2	12	24	59	23	3.7	3
Conferences and congresses	6	5	54	32	23	3.5	4
Formal meetings with colleagues from other departments	10	12	67	20	12	3.1	5
Informal conversations with colleagues from other departments	3	20	72	17	8	3.1	6
Informal meetings with peers	14	5	50	50	1	2.8	7
Formal meetings with your customers	10	37	58	12	3	2.7	8
Formal meetings with your peers	3	67	47	1	2	2.4	9
Informal meetings/conversations with your customers	6	47	60	7	0	2.4	10

Training seminars and cycle meetings were seen as the most valuable information source to help respondents do their work effectively. It received an average score of 3.9 out of 5. A rating of 4 indicates that this information source

is regarded as valuable for the respondents in doing their work effectively. Informal meetings with managers, formal meetings with managers, and conferences and congresses were also regarded as valuable information sources for respondents to be able to effectively do their work with average scores of 3.8, 3.7 and 3.5 respectively.

Question 1.2 then requested the respondents to indicate whether the mentioned sources of knowledge sharing to help them do their work, did exist in their organisation. The majority, 79% of the respondents, indicated that formal meetings with managers did take place in their organisations, and 21% answered that such meetings did not exist or that they were unsure as to whether formal meetings with managers took place. Regarding informal meetings with managers, most respondents (67%) answered that these did exist in their organisations, and 33% either answered that they did not exist or that they were unsure whether informal meetings with managers did take place.

Only 8% of the respondents indicated that formal meetings with peers did take place in their organisations and 92% answered that such meetings either did not exist or that they were unsure whether formal meetings with peers did take place. Regarding informal meetings with peers, most respondents (80%) answered that these did exist in their organisations. The vast majority, namely 97%, of respondents indicated that training seminars and cycle meetings did take place at their organisations; 93% of respondents indicated that conferences and congresses existed at their organisations.

Regarding formal meetings with customers, 93% of the respondents indicated that such did take place in their organisations, and 92% indicated that informal meetings with customers did take place in their organisations.

The next question (question 1.3) focused on how much the listed sources contributed to the respondents' knowledge about managing themselves.

The results are tabulated below (Table 5.2). The mean scores were calculated in order to rank the statements to determine which of the listed sources made as the most valuable contribution to their knowledge about managing themselves.

Table 5.2 Knowledge sources contributing to managing themselves

(N = 120)	Not valuable (1)	Of little value (2)	Unsure (3)	Valuable (4)	Highly valuable (5)	$\bar{X}$	Rank-ing
Formal training courses/seminars	0	0	10	18	92	4.7	1
Mentors/managers/ coaches	1	3	17	8	91	4.5	2
Personal experience	2	5	13	17	83	4.5	3
Co-workers/peers	5	7	12	35	61	4.2	4

All four of the listed sources scored points of above 4, indicating that these sources were seen as valuable in contributing to the respondents' knowledge about managing themselves. Formal training courses/seminars were ranked highest with a score of 4.7. Respondents felt that having mentors or coaches at work would greatly contribute to their knowledge about managing themselves. They also felt that their own personal experience as well as the input of their co-workers and peers made a valuable contribution to increasing their knowledge on how to manage themselves in the workplace. Ninety-two (77%) of respondents indicated that formal training courses and seminars would be highly valuable in managing themselves.

The next question (1.4) focused on how much the sources listed below contributed to their knowledge about dealing with their peers and supervisors. The results are tabled below (Table 5.3). The mean scores were calculated in order to rank the statements to identify which of the listed sources were regarded as most valuable in contributing to the respondents' knowledge about dealing with their peers.

Table 5.3: Knowledge sources – managing peers and supervisors

N = 120	Not valuable (1)	Of little value (2)	Unsure (3)	Valuable (4)	Highly valuable (5)	$\bar{X}$	Ranking
Personal experience	2	3	17	69	29	4.0	1
Formal training courses/seminars	4	14	30	53	19	3.6	2
Mentors/managers/ coaches	0	5	57	46	12	3.5	3
Co-workers/peers	4	5	80	21	10	3.2	4

Personal experience was ranked the highest with a score of 4.0, indicating that respondents felt that this was a valuable source of knowledge about dealing with their peers and supervisors. Of the total number of respondents, 98 (82%) said that personal experience was a valuable and highly valuable source of knowledge to help them deal with their peers and supervisors. Formal training courses/seminars, mentors/coaches and co-workers as knowledge source scored 3.6, 3.5 and 3.2 respectively, indicating that they were not perceived as very valuable sources of knowledge in dealing with peers in the workplace.

The next question (Question 1.5) dealt with the degree to which the mentioned sources below contributed the respondents' knowledge about managing their sales activities and customers. As in the previous questions, the mean scores were calculated in order to rank the statements. This was done in order to determine which of the listed sources were viewed as most valuable in contributing to the respondents' knowledge about managing their sales activities and customers.

Table 5.4: Knowledge sources – managing sales activities and customers

(N = 120)	Not valuable	Of little value	Unsure (3)	Valuable (4)	Highly valuable	$\bar{X}$	Rank-ing

	(1)	(2)			(5)		
Formal training courses/seminars	0	3	17	48	52	4.2	1
Mentors/managers/coaches	1	8	25	27	59	4.1	2
Personal experience	3	10	26	58	23	3.7	3
Co-workers/peers	5	12	41	32	30	3.6	4

Formal training courses/seminars and having mentors or coaches in the workplace were ranked highest with scores of 4.2 and 4.1 respectively, indicating that the respondents regarded these knowledge sources as valuable contributors to their knowledge of managing their sales activities and customers.

The investigation now expanded to determine whether there was any relationship between the years in the organisation (tenure of the respondents) and the value of personal experience towards managing themselves, as well as their sales activities. A logical conclusion would be that the longer a sales force member has been in an organisation, the greater their personal experience would be; thus the analysis to establish whether this conclusion (test of normality) holds any truth. The result is given in Tables 5.5.

Table 5.5: Test of Normality for years in the organisation and personal experience

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Personal experience	.191	120	.000	.916	120	.000

There seems to be a significant association between the years in the organisation and the value of personal experience in managing themselves and their sales activities. The association between these variables is 0.000 (at the 5% level). Of the 56 respondents who reported that they had been in their

organisation for more than two years, 96% perceived personal experience to be valuable and highly valuable in managing sales activities and customers. Of the 56 respondents who said that they had been in their organisation for more than two years, 100% perceived personal experience to be highly valuable in managing themselves in their daily work.

5.2.3 Section 2: Assistance at organisations for employees

With this section of the questionnaire the aim was to establish the level of assistance received by employees at their organisation regarding the sharing and acquisition of new knowledge. The responses will be presented here according to the percentage of responses in each category (Table 5.6).

Table 5.6: Level of assistance at organisations regarding knowledge sharing

	Items	$\bar{X}$ (Mean)	Mode	Min	Max	Std Deviation	N
2.1.1	When I joined the organisation, I received on-the-job training from fellow employees	3.0	3	1	5	0.879	120
2.1.2	I often impart my work knowledge to inexperienced employees	2.7	2	1	5	1.026	120
2.1.3	Knowledge sharing is a formal measure in my performance appraisal	2.2	2	1	5	0.975	120
2.1.4	I am frequently encouraged to share ideas with people I report to	2.4	2	1	5	0.961	120
2.1.5	I feel comfortable to share my knowledge and experiences to assist peers	3.2	3	1	5	1.000	120
2.1.6	The work environment encourages people to share their views about the world and	2.4	2	1	5	0.853	120

	life						
2.1.7	Employees have a vast amount of knowledge which they are willing to share	3.5	4	1	5	1.008	120
2.1.8	Based on my experience, I suggest improvements to meet strategic goals	3.0	3	1	4	0.632	120
2.1.9	Team members with specific skills proactively help others in learning the same	2.9	3	1	5	0.772	120
2.1.10	I need to guard my knowledge to get ahead in the organisation	3.8	4	1	5	0.939	23

On the first item about whether the respondents had received on-the-job training from fellow employees when they joined the organisation, most respondents answered that they were unsure whether this was the case at their organisations as indicated by the mean score of 3.0. Respondents were also undecided as to whether they imparted knowledge to other inexperienced employees with a mean score of 2.7. Only 21% of respondents agreed or strongly agreed that they often imparted work knowledge to inexperienced employees.

A disturbing finding was that only 11% of the respondents agreed or strongly agreed with the statement that knowledge sharing was a formal measure in their performance appraisal. Most of the respondents disagreed with the statement (as per the mean score of 2.2) and that is indicative of a lack of measurement for knowledge sharing in the sampled organisations (see figure 5.16).

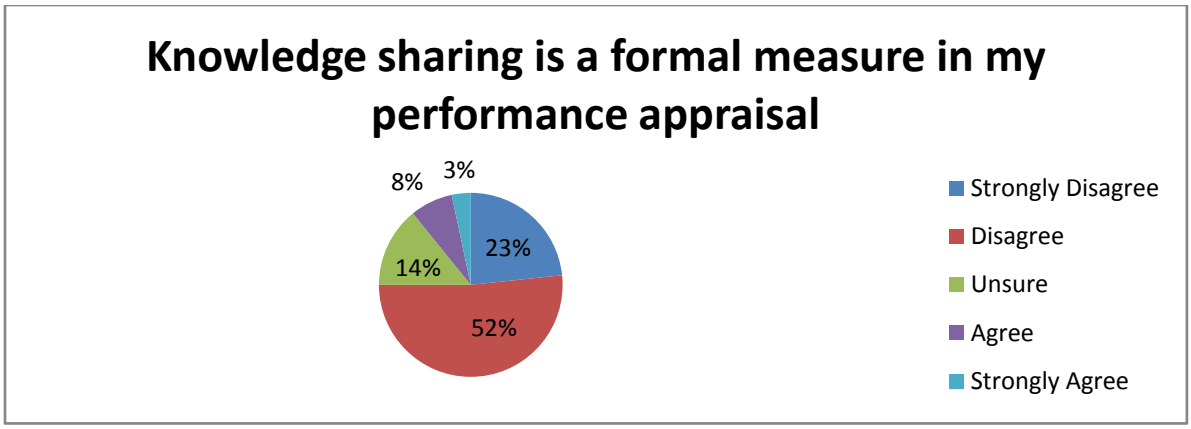


Figure 5.9: Knowledge sharing as indicator in performance appraisal

According to the respondents (see Figure 5.9), only 11% are frequently encouraged to share ideas with people they reported to. Sixty percent of the respondents either disagreed or strongly disagreed with this statement; 41% of respondents revealed that they felt comfortable to share their knowledge and experience to assist peers in their organisations, and 35% of the respondents felt unsure. A rather perturbing finding was that 58% of the respondents expressed the opinion that their work environment did not encourage people to share their views about the world and life. Only 7% of the respondents felt that their work environment did encourage people to share views about the world and life; therefore a mean score of 2.4 (see figure 5.10.

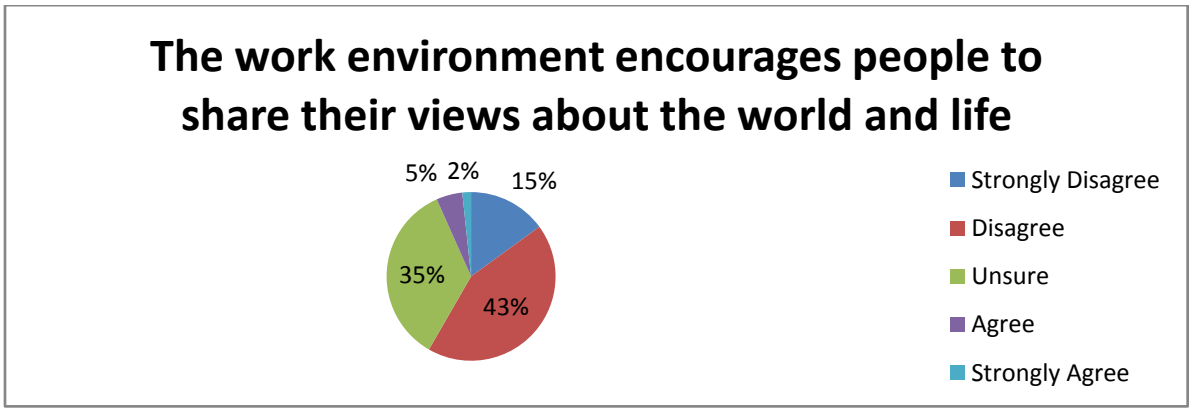


Figure 5.10: Work environment

Most respondents (64%) either agreed or strongly agreed that employees have a vast amount of knowledge which they were willing to share as is reflected by the mean score of 3.5 for this statement. With regard to whether respondents could suggest improvements at their organisations to meet strategic goals, based on their experience, most (65%) was unsure whether this was in fact the case.

Respondents were also unsure about whether team members in their organisations who had specific skills proactively helped others in learning the same with 64% indicating they were unsure and only 13% agreeing with the statement.

The next statement asked the respondents whether they felt that they needed to guard their knowledge in order to get ahead in their organisation and 73% of the respondents either agreed or strongly agreed with this statement. The mean score of the responses was 3.8 which make it evident that respondents mostly felt that sharing knowledge would be detrimental to their career progression (see figure 5.11).

Figure 5.11: The need to guard knowledge to get ahead

When combining the scores of question 2.1.5 and 2.1.10, a willingness-to-share-knowledge score was calculated for further analysis, as these two questions

revolved around how willing employees were to share knowledge in their workplace. The scores varied from 1 to 10 where 1 is a good score showing willingness to share and 10 is a bad score showing no willingness to share their knowledge or a lack of willingness to share knowledge.

Table 5.7: Correlation between willingness to share knowledge and tenure in organisation

	Years in org	Willingness		
Spearman's rho	Years in org	Correlation Coefficient	1.000	.303*
		Sig. (2-tailed)	.	.001
		N	120	120
	Willingness	Correlation Coefficient	.303*	1.000
		Sig. (2-tailed)	.001	.
		N	120	120

*p<0.01 (99% sign) - Correlation is significant at the 0.01 level (2-tailed).

**p< 0.05 (95% sign)

There seems to be a statistically significant relationship between the willingness to share knowledge and the years in the organisation (Table 5.7). The correlation coefficient between these two variables is 0.303 with a p-value of 0.001 (at the 1% level). The mean score of the group that indicated they had been in the organisation for less than a year was 5.7, for those in the organisation between one and two years the mean score was 6.6 and for those in the organisation for longer than two years, the mean score was 7.7. The results indicate that new employees are more willing to share their knowledge, but this willingness decreased the longer they stayed in the organisation. This poses the question regarding why experienced employees are not willing to share their knowledge and how can one convince them not to guard their knowledge?

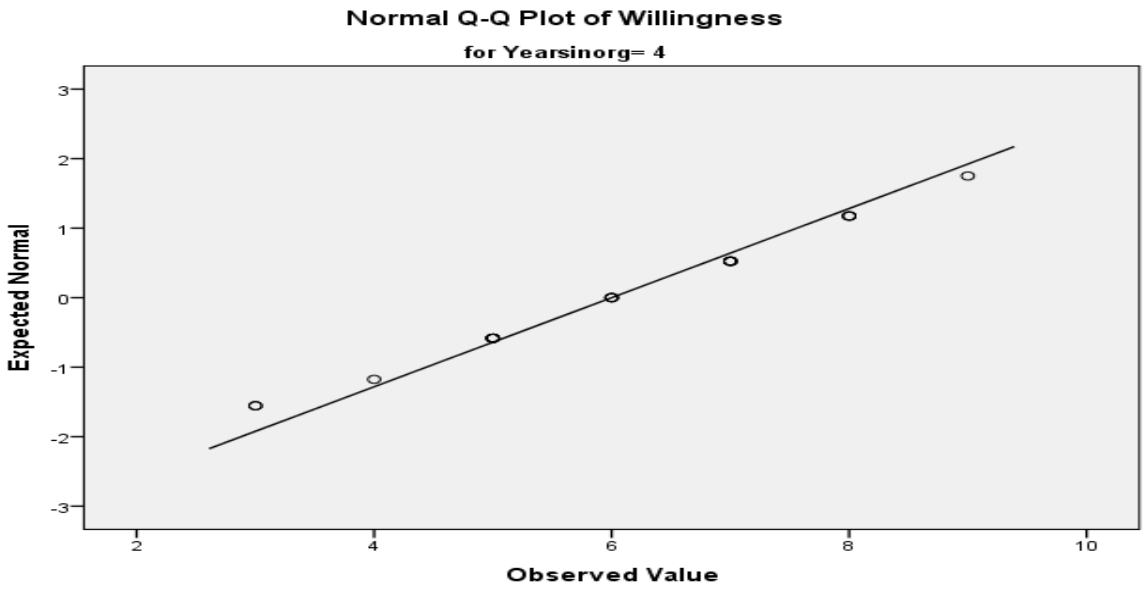


Figure 5.12: Expected *vs.* observed values for willingness to share according to tenure

Willingness to share knowledge (questions 2.1.5 and 2.1.10 combined) was then reviewed in terms of differences in means as well as whether there was a correlation between these two variables (willingness to share knowledge and different age groups).

Table 5.8: Correlation between willingness to share knowledge and age

			Willingness	Age
Spearman's rho	Willingness	Correlation Coefficient	1.000	.375*
		Sig. (2-tailed)	.	.000
		N	120	120
	AGE	Correlation Coefficient	.375*	1.000
		Sig. (2-tailed)	.000	.
		N	120	120

*p<0.01 (99% sign) - Correlation is significant at the 0.01 level (2-tailed).

**p< 0.05 (95% sign)

There seems to be a statistically significant relationship between the willingness to share knowledge and the age of respondents (see Table 5.8). The correlation coefficient between these two variables is 0.375 and this correlation was significant at the 0.01 level. The results indicate that younger employees are more willing to share their knowledge, but this willingness decreases as the age increases. This poses a problem, as older employees have more tacit knowledge and experiences to share and this is the knowledge one would want to capitalise on. The question can now be asked as to how an organisation can tap into the knowledge of older employees.

Willingness to share knowledge (questions 2.1.5 and 2.1.10 combined) were then reviewed in terms of whether there is a relationship or correlation between the respondents' willingness to share knowledge and the cultural group or race that the respondent belongs to. The results of the Spearman's correlation is summarised in Table 5.9.

Table 5.9: Correlation between willingness to share knowledge and culture

			Willingness	Culture
Spearman's rho	Willingness	Correlation Coefficient	1.000	.290*
		Sig. (2-tailed)	.	.001
		N	120	120
	Culture	Correlation Coefficient	.290*	1.000
		Sig. (2-tailed)	.001	.
		N	120	120

*p<0.01 (99% sign) - Correlation is significant at the 0.01 level (2-tailed).

**p< 0.05 (95% sign)

There seems to be a statistically significant relationship between the willingness to share knowledge and the race of respondents. The correlation coefficient between these two variables is 0.290 and this correlation was significant at the

0.01 level. The results indicate that organisations need to take cognisance of different cultures in the organisation and be sensitive to this matter when embarking on knowledge -sharing strategies.

Willingness to share knowledge was then reviewed in terms of differences of means with regard to gender and highest qualification. There seems to be no statistically significant difference between the gender of the respondents or the highest qualification of respondents and their willingness to share knowledge. Therefore, the willingness to share knowledge does not seem to be influenced by gender or the qualification of the employee.

5.2.4 Section 3: Benefits of tacit knowledge sharing

This section investigated the benefits the respondents had reaped from sharing and/or acquiring new knowledge in the organisation. **The first question inquired whether the respondents felt that sharing and acquiring new knowledge could improve their productivity as sales force members.** Of the 120 respondents 90% answered yes, 5% answered no, and 5% indicated that they did not know whether sharing and acquiring new knowledge would improve productivity (Figure 5.13).

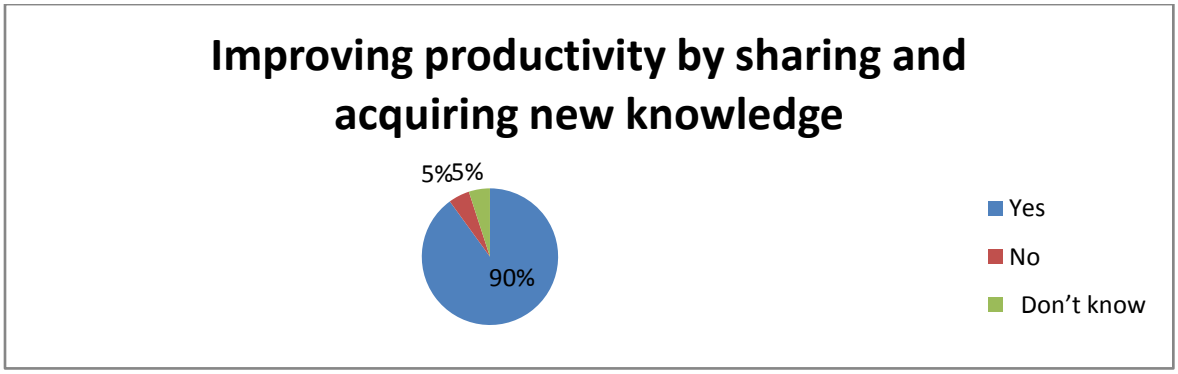


Figure 5.13 **Improving productivity by sharing and acquiring new knowledge**

The second question requested respondents to rate the following statements on a scale of 1-5; 1 being untrue and 5 being true. The responses are tabled below, as well as the mean scores in order to rank the statements and determine which one was perceived as the most accurate statement (Table 5.12).

Table 5.10: Career benefits from knowledge sharing

(N = 120)	Untrue	Mostly Untrue	Unsure	Mostly True	True	$\bar{X}$	Rank
I feel more satisfied with my job if I am placed in a position where I can share my own knowledge	6	10	27	63	14	3.6	1
I feel more satisfied with my job when I learn from others	12	18	37	50	3	3.1	2
As a result of what I learned from others, I have moved up the ranks (now/previously) and performed better	15	25	29	49	2	3.0	3
My duties have increased with colleagues assisting me to become more efficient	13	15	37	48	7	3.0	4
My performance bonuses increased with my team sharing best practices with me	14	40	39	22	5	2.7	5

Most of the respondents (65%) agreed with the statement to which they were requested to respond whether they would be more satisfied with their work if they were placed in a position where they could share their knowledge. This is revealing as it points to an inherent willingness of respondents to impart knowledge onto others. The average scores of the other statements ended around a score of 3, indicating that they were generally unsure whether these statements were in fact true. The second-ranked item expected of the respondents to indicate whether they felt more satisfied with their work when they

learnt from other people. Only 44% of the respondents indicate that the statement was true or mostly true, and 31% of the respondents were unsure what to answer. The third-ranked statement endeavoured to determine whether the respondents were of the opinion that they had moved up the ranks in their organisations due to what they had learned from others, and 43% of the respondents believed the statement being true or mostly true. Thirty-three percent of the respondents believed the statement to be untrue or mostly untrue. Asked whether their duties had increased with colleagues assisting them to become more efficient, 50% of respondents answered that in their opinion the statement was true or mostly true. The final statement investigated whether their performance bonuses had increased with the team sharing best practices and only 22% of the respondents agreed with this statement. This may points to a lack of motivation by management through initiatives such as incentives when it comes to knowledge sharing in the workplace.

To respond to the next question, respondents had to indicate what the organisational benefits were that had been or could have been derived from knowledge sharing among employees. The responses are tabled below (Table 5.11) and the mean scores were calculated in order to rank the benefits to establish which one was perceived as being the most valuable benefit derived from knowledge sharing among employees.

Table 5.11: Organisational benefits derived from knowledge sharing

(N = 120)	Strongly disagree (1)	Disagree (2)	Unsure (3)	Agree (4)	Strongly agree (5)	$\bar{X}$	Rank-ing
Improvement in internal communication	7	12	6	59	36	3.9	1
More productivity in the field	8	9	11	73	19	3.7	2
Mistakes not repeated by other sales force members in the team	2	17	17	67	17	3.7	3

Better understanding of different cultures	9	15	11	62	23	3.6	4
Efficient sales team	13	10	17	65	15	3.5	5
Better work environment	12	20	10	47	31	3.5	6
Successes of the team capitalised on	2	18	59	27	14	3.3	7

Respondents agreed that knowledge sharing would lead to improvement in internal communication with this statement scoring an average of 3.9. In any organisation, internal communication is crucial for an effective team and therefore 79% of the respondents agreed and strongly agreed that knowledge sharing could lead to an improvement in internal communication. Respondents also agreed that knowledge sharing in the workplace would lead to more productivity in the field, mistakes not repeated by other sales force members in the team, as well as a better understanding of different cultures. These responses scored on average 3.7, 3.7 and 3.6 respectively. According to 65% of the respondents (agreed and strongly agreed) knowledge sharing could lead to a better work environment, and 67% of the respondents agreed and strongly agreed that knowledge sharing could lead to a more efficient sales team with only 19% disagreeing with the statement.

5.2.5 Section 4: Barriers to tacit knowledge sharing

With this section of the questionnaire, it was attempted to determine which barriers hindered employees from sharing their knowledge with others as well as what stood in their way of acquiring new knowledge. **The first question was whether they agreed or disagreed with certain statements made and they had to indicate the extent to which they agreed or disagreed with each statement, so as to indicate what hindered employees from sharing knowledge.** The responses are tabulated in Table 5.14.

Table 5.12: What hinders employees in sharing knowledge

(N = 120)	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree	$\bar{X}$	Rank-ing
Employees are hindered in sharing knowledge due to lack of sufficient time	2	3	11	54	50	4.5	1
Employees are hindered in sharing knowledge due to lack of management support for knowledge sharing	7	8	10	55	40	3.9	2
Employees are hindered in sharing knowledge through fear that sharing might reduce job security	7	10	6	61	36	3.9	3
Employees are hindered from sharing knowledge due to lack of trust among employees	6	22	59	26	7	3.5	4
Employees are hindered in sharing knowledge due to differences in culture and ethnic background	10	9	27	55	19	3.5	5
Employees are hindered in sharing knowledge due to age differences	17	53	19	11	10	3.4	6
Employees are hindered in sharing knowledge due to lack of appropriate space	4	15	58	37	6	3.2	7
Employees are hindered in sharing knowledge due to poor communication skills	6	23	59	21	11	3.1	8
Employees are hindered in sharing knowledge due to language barriers	4	15	56	19	26	2.8	9
Employees are hindered in sharing knowledge due to gender differences	14	52	36	13	5	2.3	10

A staggering 84% of the respondents felt that employees were hindered in sharing knowledge due to lack of sufficient time. The average score for this statement was 4.5, indicating that respondents strongly agreed that the lack of

sufficient time hindered effective knowledge sharing. The lack of management support for knowledge sharing was ranked second highest as a possible knowledge-sharing barrier with an average score of 3.9. The majority of respondents (79%) were of the opinion that employees were hindered in knowledge sharing by a lack of management support. Another prominent barrier to knowledge sharing stemmed from the perception that employees indicated that sharing their knowledge might reduce their own work security. This was ranked third, with an average score of 3.9.

Most employees were not sure whether language barriers would be in the way of sharing knowledge with only 38% of the respondents agreeing with the statement. Most respondents disagreed with the statement that age was a knowledge-sharing barrier, as 64% either disagreed or strongly disagreed. The respondents were mostly unsure about whether poor communication skills and language barriers would hinder effective knowledge sharing - with average scores of 3.1 and 2.8 respectively.

The statement that employees are hindered from sharing knowledge by gender differences was ranked of least importance with an average score of 2.3, indicating that respondents mostly disagreed with this statement. This finding tie in with the analysis done in section two where no statistically significant difference were found between the gender of the respondents and their willingness to share knowledge.

The next item followed the same format; respondents were asked to indicate to which degree they agreed or disagreed with the statements tabled below (Table 5.13). This was asked to establish what would contribute to a lack of knowledge sharing, or be barriers in the way of sharing knowledge among employees in the organisation.

Table 5.13: Factors that contributed to barriers in knowledge sharing

N = 120	Strongly disagree	Disagree	Not sure	Agree	Strongly agree	$\bar{X}$	Rank-ing
No clear knowledge-sharing strategy in place	0	2	8	29	81	4.6	1
Lack of motivation and rewards for knowledge sharing	0	0	4	36	80	4.6	2
Corporate culture that hinders knowledge sharing	1	1	11	42	65	4.4	3
No leadership in terms of knowledge sharing	2	12	8	70	28	3.9	4
Internal competition among peers and divisions	8	12	14	48	38	3.8	5
Hierarchy restricts communication flow	4	6	33	51	26	3.7	6
Shortage of formal and informal spaces to share knowledge	8	11	21	63	17	3.6	7

The vast majority (92%) of the respondents agreed and strongly agreed that no clear knowledge-sharing strategy was in place that would contribute to breaking down barriers in the way of effective knowledge sharing, and this statement also was ranked highest with a mean score of 4.6. A further 97% of the respondents agreed and strongly agreed that a lack of motivation was a barrier in the way of knowledge sharing, and a corporate culture that hindered knowledge sharing was rightly regarded as a contributing factor to barriers placed in the way of knowledge sharing by 89% of the respondents. A large number (81%) of the respondents agreed and strongly agreed that no leadership in knowledge sharing also contributed to the barriers hindering knowledge sharing. These statements indicate the importance of management intervention in the process of tacit knowledge sharing.

Management further needs to take into account that internal competition among team members, corporate hierarchy that restricts communication flows and a

shortage of formal or informal spaces to share knowledge would enhance the barriers in the way of effective tacit knowledge sharing. The responses indicating these as hindering factors were ranked 3.8, 3.7 and 3.6 respectively.

In the next question, the respondents were asked what technological knowledge-sharing barriers stood in their way to sharing knowledge. The responses are summarised in Table 5.14.

Table 5.14: Technological knowledge-sharing barriers

(N = 120)	Strongly disagree	Disagree	Not sure	Agree	Strongly agree	$\bar{X}$	Rank-ing
Lack of technical support	7	7	12	68	26	3.8	1
Lack of training in ICT systems and processes	10	9	21	47	33	3.7	2
Unrealistic expectations of ICT systems	7	27	57	16	10	2.9	3

Seventy-eight percent (78%) of the respondents agreed or strongly agreed that a lack of technical support was a barrier in the way of effective knowledge sharing, and 67% of the respondents saw a lack of training in ICT systems and processes as a barrier in knowledge sharing. It is interesting to note that 49% of the respondents were unsure whether unrealistic expectations would be a barrier in knowledge sharing, perhaps indicating that they either did not understand the question, or that they were unsure about the applicability of this as causing a barrier in the way of knowledge sharing.

When combining the scores of question 4.1, 4.2 and 4.3 as barriers in tacit knowledge sharing a score was calculated for further analysis. The scores varied from 20 to 100, where a score of 20 showed that employees did not agree that barriers existed in their organisations and a score of 100 indicated that the employees strongly agreed that all the mentioned barriers existed in their

organisations, and they were therefore well aware of these barriers. The barriers were then reviewed to see if there were statistically significant relationships or correlations between identifying barriers for tacit knowledge sharing and age.

Table 5.15: Correlation between barriers and age

	Barriers	Age		
Spearman's rho	Barriers	Correlation Coefficient	1.000	.246*
		Sig. (2-tailed)	.	.007
		N	120	120
	Age	Correlation Coefficient	.246*	1.000
		Sig. (2-tailed)	.007	.
		N	120	120

*p<0.01 (99% sign) - Correlation is significant at the 0.01 level (2-tailed).

**p< 0.05 (95% sign)

An outstanding finding here was that there seems to be a statistically significant relationship between how different age groups experienced or perceived the number of barriers in the way of knowledge sharing in their organisations. The correlation coefficient between barriers and age was 0.246 and this correlation was significant at the 0.01 level. Findings in section 2 suggested that the willingness to share knowledge decreased the longer an employee was part of an organisation. Most of those respondents that stated that they had been in their organisations for more than two years were also of a higher average age than the rest of the groups. Older employees therefore identified more barriers in their organisations and in turn were not as willing to share their tacit knowledge as the respondents who were younger and had been employed in the organisation for a shorter time. The barriers were then also reviewed in terms of culture, language, years in organisation and gender (see Tables 5.16- 5.19).

Table 5.16: Correlation between barriers and culture

			Barriers	Culture
Spearman's rho	Barriers	Correlation Coefficient	1.000	.093
		Sig. (2-tailed)	.	.310
		N	120	120
	Culture	Correlation Coefficient	.093	1.000
		Sig. (2-tailed)	.310	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

Table 5.17: Correlation between barriers and years in organisation

			Barriers	Years in organisation
Spearman's rho	Barriers	Correlation Coefficient	1.000	.143
		Sig. (2-tailed)	.	.120
		N	120	120
	Years in org	Correlation Coefficient	.143	1.000
		Sig. (2-tailed)	.120	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

Table 5.18: Correlation between barriers and gender

			Barriers	Gender
Spearman's rho	Barriers	Correlation Coefficient	1.000	-.085
		Sig. (2-tailed)	.	.356
		N	120	120
	Gender	Correlation Coefficient	-.085	1.000
		Sig. (2-tailed)	.356	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

Table 5.19: Correlation between barriers and language

			Barriers	1st Language
Spearman's rho	1st Language	Correlation Coefficient	1.000	.099
		Sig. (2-tailed)	.	.281
		N	120	120
	Barriers	Correlation Coefficient	.099	1.000
		Sig. (2-tailed)	.281	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

There was no statistically significant relationship between identifying barriers for tacit knowledge sharing (question 4.1, 4.2, 4.3) and culture, years in organisation, language or gender. The groups therefore agreed uniformly on the possible barriers for tacit knowledge sharing for the sales force in the South African pharmaceutical industry, as discussed earlier in this chapter (section 4).

5.2.6 Section 5: Enablers of tacit knowledge

In this section, respondents had to respond to statements on possible enablers for knowledge sharing, where enablers for knowledge sharing were factors that stimulated and/or enhanced knowledge sharing. Enablers therefore have a positive influence on knowledge sharing. Respondents responded to statements based on their feelings and ideas about possible enablers. **The first statements ought to elicit respondents' opinions on how possible knowledge-sharing enablers would contribute to tacit knowledge sharing in their organisation.** On the rating scale the respondents had to indicate the degree to which they agreed with the statement, that is, the degree to which they regarded the particular factor as an enabler. The table below (Table 5.20) indicates a summary of the responses to the first item in this section.

Table 5.20: Enablers towards knowledge sharing

(N = 120)	Very poor	Poor	Neutral	Strong	Very strong	$\bar{X}$	Rank-ing
Clear business goals linking knowledge sharing to the strategy	3	3	10	47	57	4.3	1
Knowledge sharing strongly supported by management/leaders	4	6	9	62	39	4.1	2
Knowledge sharing becomes a daily way of working	3	7	17	66	27	3.9	3
Knowledge sharing used to solve everyday business problems	4	5	11	73	23	3.8	4
The company creates the right context and/or place for knowledge sharing	2	8	11	67	22	3.6	5
Clear direction on how to report/document new knowledge	2	2	23	64	19	3.6	6
Adequate training in supporting technologies for recording knowledge sharing	4	6	15	63	22	3.5	7
Company identifies change agents to drive knowledge sharing	1	22	49	23	25	3.4	8

The majority (87%) of the respondents agreed and strongly agreed that clear business goals linking knowledge sharing to the strategy would enable better knowledge sharing as this statement was ranked first with an average score of 4.3. A further 85% of the respondents felt that knowledge sharing needed to be strongly supported by managers and other leaders in the organisation and this again highlights the important role that management has to play when it comes to tacit knowledge-sharing initiatives in organisations.

Seventy-eight percent (78%) of the respondents felt that another enabler for knowledge sharing would be if knowledge sharing should become a daily way of working. A further 83% of the respondents expressed the opinion that knowledge sharing could be enhanced by using it to solve everyday business problems; these two responses got average scores of 3.9 and 3.8 respectively. Eighty-one percent (81%) of the respondents felt that if the company were to create the right context and place for knowledge sharing it would serve as an important knowledge-sharing enabler.

Some technological enablers also came to the forefront with 78% of the respondents indicating that the organisation would enable knowledge sharing by providing clear direction on how to report and document new knowledge, with a further 77% of the respondents indicating that adequate training in the supporting technologies for recording knowledge would serve as a good enabler for knowledge sharing in the organisation. Fewer respondents (41%) were unsure whether change agents would be a suitable knowledge-sharing enabler in their organisation.

The tacit knowledge sharing enablers (question 5.1) were then reviewed to see if there were statistically significant relationships between identifying enablers for tacit knowledge sharing and culture, age, language, years in organisation or gender (see Tables 5.21 - 5.25)**.**

Table 5.21: Correlation between enablers and culture

			Culture	Enablers
Spearman's rho	Culture	Correlation Coefficient	1.000	.035
		Sig. (2-tailed)	.	.704
		N	120	120
	Enablers	Correlation Coefficient	.035	1.000
		Sig. (2-tailed)	.704	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

Table 5.22: Correlation between enablers and age

			Age	Enablers
Spearman's rho	enablers	Correlation Coefficient	1.000	.032
		Sig. (2-tailed)	.	.731
		N	120	120
	Age	Correlation Coefficient	.032	1.000
		Sig. (2-tailed)	.731	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

Table 5.23: Correlation between enablers and years in organisation

			Enablers	Years in org
Spearman's rho	Enablers	Correlation Coefficient	1.000	.053
		Sig. (2-tailed)	.	.568
		N	120	120
	Years in org	Correlation Coefficient	.053	1.000
		Sig. (2-tailed)	.568	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

Table 5.24: Correlation between enablers and gender

			Enablers	Gender
Spearman's rho	Enablers	Correlation Coefficient	1.000	.074
		Sig. (2-tailed)	.	.423
		N	120	120
	Gender	Correlation Coefficient	.074	1.000
		Sig. (2-tailed)	.423	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

Table 5.25: Correlation between enablers and language

			Enablers	1st Language
Spearman's rho	Enablers	Correlation Coefficient	1.000	.028
		Sig. (2-tailed)	.	.761
		N	120	120
	1st Language	Correlation Coefficient	.028	1.000
		Sig. (2-tailed)	.761	.
		N	120	120

*p<0.01 (99% sign)

**p< 0.05 (95% sign)

There was no statistically significant relationship between identifying enablers for tacit knowledge sharing (items in question 5.1) and culture, age, years in organisation, language or gender. The groups therefore agreed uniformly on the possible enablers for tacit knowledge sharing for the sales force in the South African pharmaceutical industry as discussed earlier in this chapter (4.4.6).

The next question investigated whether the organisation's incentives were linked in any way to knowledge sharing with the options of yes, no and unsure.

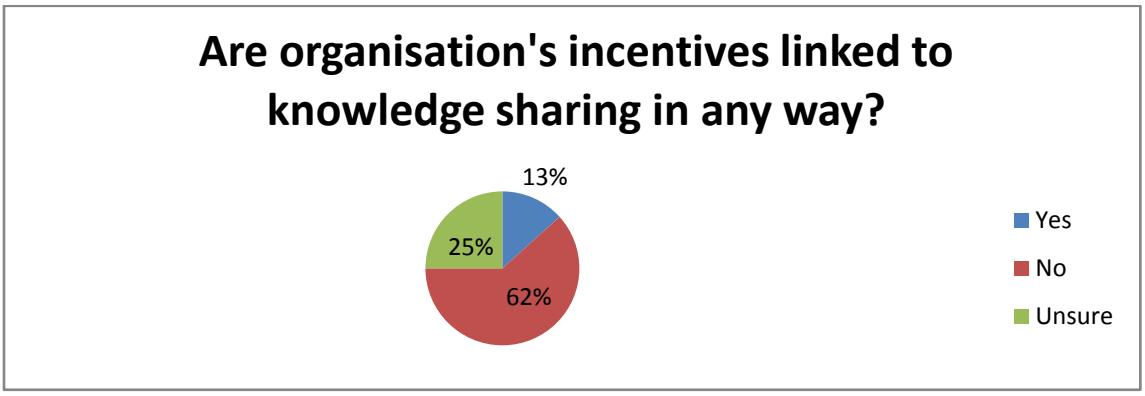


Figure 5.14: Organisational incentives linked to knowledge sharing

As indicated in the pie chart above (Figure 5.14) 62% of the respondents answered that their company's incentives were not linked to knowledge sharing in any way and a further 25% responded that they were unsure and therefore did not know whether any form of incentives was linked to knowledge sharing in their organisation. Only 13% of respondents answered that knowledge sharing formed a part of the incentive calculation in their organisation.

5.2.7 Section 6: Tacit knowledge sharing instruments in the organisation

In this section, tacit knowledge-sharing instruments in the various organisations were investigated. **The first question in this section asked the respondents to indicate where they shared knowledge at their workplace. It also gave the option for respondents to mention any other place that they used to share knowledge.** The bar chart (Figure 5.15) below indicates the results of the first question in this section:

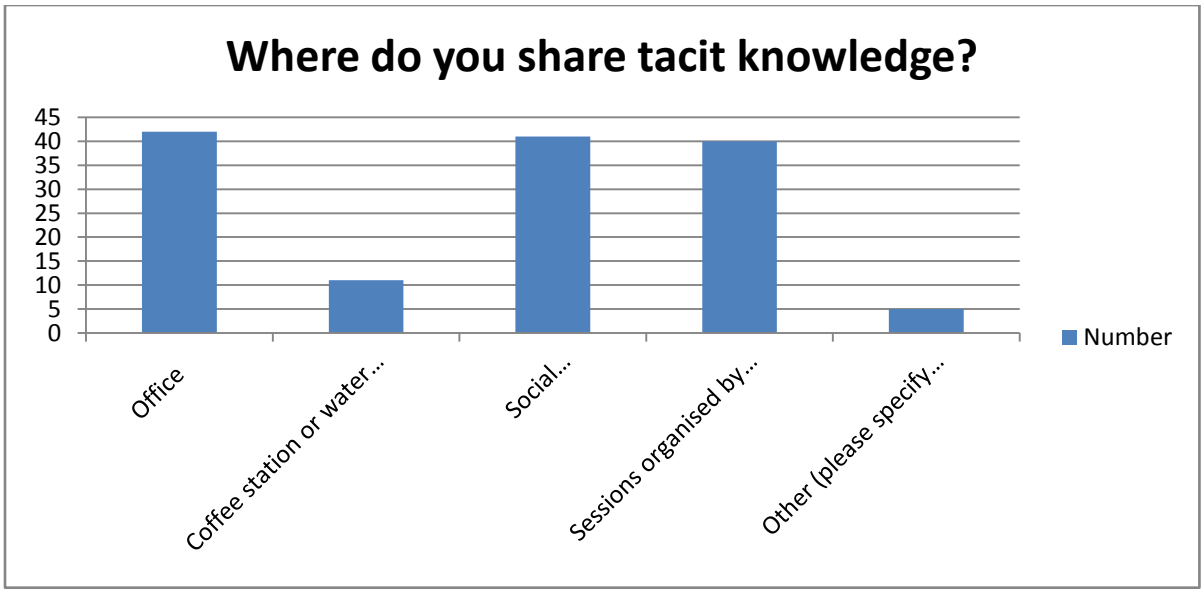


Figure 5.15: Places to share knowledge

Forty-two (42) respondents (35%) indicated that they shared knowledge in the office and 11 (9%) indicated that they shared knowledge at the coffee station and water cooler in the office. Forty-one (41) respondents (34%) indicated that they shared knowledge at social functions and gatherings, whereas 40 respondents (33%) indicated that they shared knowledge at sessions organised by management. For the option of other places where knowledge could be shared at the sample organisations, only five respondents answered with the most (4) mentioning social platforms such as *Facebook* and ICT systems at their organisations and one respondent mentioned emails as channel to share knowledge.

The next question asked the respondents' opinions on whether enough opportunities were created at their organisations for tacit knowledge sharing. The answers are depicted in the pie chart below (Figure 5.16).

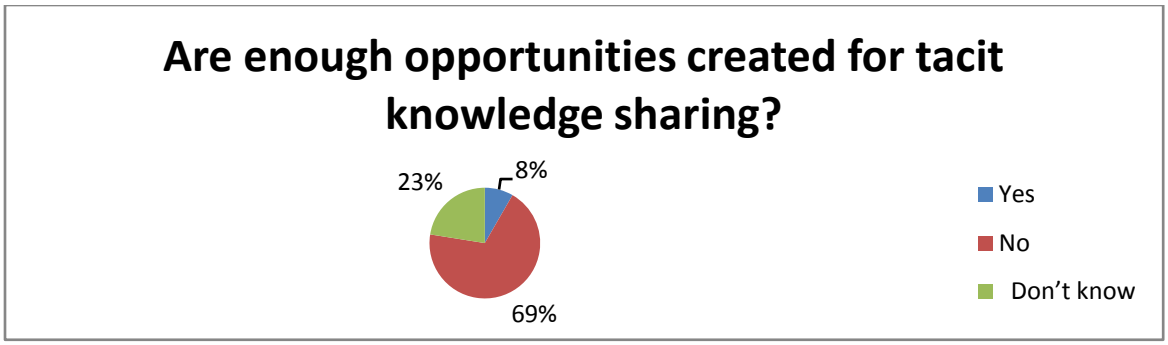


Figure 5.16: Opportunities created for knowledge sharing

Sixty-nine percent (69%) of the respondents were of the opinion that not enough opportunities were created for the sharing of tacit knowledge at their organisations. A further 23% of respondents felt that they did not know whether enough opportunities existed and only 8% felt that enough opportunities were created at their organisations.

The next question investigated how valuable the respondents perceived the following knowledge-sharing instruments in their organisation and workplace. The results are tabled below (Table 5.26) and the mean scores were calculated in order to rank which knowledge-sharing instrument was perceived as being the most valuable to facilitate knowledge sharing in their organisation and workplace.

Table 5.26: Value of knowledge sharing instruments

(N = 120)	Not valuable	Of little value	Unsure	Valuable	Highly valuable	$\bar{X}$	Rank-ing
Brainstorming sessions	2	2	6	94	16	4.0	1
New employee induction	0	2	12	101	5	3.9	2
New employee training courses	5	9	22	43	39	3.8	3
Email communications	1	1	25	92	1	3.8	4

Workshops to discuss key learning	0	3	27	83	7	3.8	5
Social events for employees	2	12	28	77	1	3.5	6
Mentoring programmes	2	10	81	25	2	3.1	7
Knowledge management ICT tool	0	12	89	17	2	3.1	8
Communities of practice	0	6	106	5	3	3.0	9
Project teams comprising multi-functional team members	3	30	79	7	1	2.8	10

Brainstorming sessions and new employee induction programmes were regarded as the most valuable knowledge-sharing tools that would help facilitate effective knowledge sharing in organisations, with respected average scores of 4.0 and 3.9. A rating of around 4 indicates that this knowledge-sharing instrument was regarded as valuable for the respondents in facilitating knowledge sharing in their workplace. Brainstorming as knowledge-sharing instrument had 91% of respondents indicating that this instrument would be of value in knowledge sharing, and 84% of the respondents indicated that new employee induction would be a valuable instrument for knowledge sharing.

Training courses or induction for new employees, effective email communication and workshops to discuss key learning were also regarded as valuable instruments that would facilitate effective knowledge sharing in the workplace, attaining average scores of 3.8 for each of these instruments. Sixty-four percent (64%) of the respondents viewed social events for employees as a valuable instrument for knowledge sharing - with an average score of 3.5.

Most respondents were unsure whether mentoring programmes, ICT tools, communities of practice and project teams would be of any value as a knowledge-sharing instrument with the average scores being 3.1, 3.1, 3.0 and 2.8 respectively.

The above question investigated how valuable the respondents perceived the mentioned knowledge sharing instruments in their organisation and workplace, **but it also had a follow-up question as to whether these instruments did exist in the respondents' organisation.** They had to indicate by marking yes, no or unsure, and this was done to establish some trends as will be discussed later in this chapter. The results are summarised below Table 5.27).

Table 5.27: Knowledge-sharing instruments that existed at sample organisations

(N = 120)	Unsure	YES	NO	Ranking according to YES
Email communications	1	119	0	1
Social events for employees	8	111	1	2
New employee induction	11	91	18	3
Brainstorming sessions	17	90	13	4
New employee training courses	30	69	21	5
Knowledge management ICT tool	80	24	16	6
Mentoring programmes	22	17	81	7
Workshops to discuss key learning	27	11	82	8
Communities of practice	38	3	79	9
Project teams comprising multi-functional team members	29	2	89	10

Most respondents (99%) answered as expected that email communications did exist in their organisations, and many (93%) respondents also indicated that there were enough social events for employees at their organisations. New employee induction programmes (76%) and brainstorming sessions (75%) were also well represented in the responses. It is therefore apparent that there are

already some forms of knowledge sharing instruments available that management can utilise in order to start with tacit knowledge-sharing initiatives.

A more disappointing finding from the viewpoint of knowledge sharing was to note that 86% of the respondents indicated that mentoring programmes either did not exist, or that they were unsure whether they did exist. Therefore, only 14% of the respondents had access to clearly defined mentoring programmes at their organisations. An even larger number (98%) of employees said that communities of practice either did not exist or that they were unsure about the existence of such practices. Project teams comprising multi-functional team members also did not score well, as 98% of the respondents indicated that such teams did not exist or that they were unsure whether they existed. The item on workshops to discuss key learning showed 91% of respondents scoring these instruments' existence as *no* or *unsure* at their organisation. Most respondents (80%) indicated that knowledge management ICT tools did either not exist or they were unsure about whether they existed at the organisations.

As mentioned, question 6.3 investigated how valuable the respondents perceived these mentioned knowledge-sharing instruments in their organisations and workplace and whether these instruments did exist in the respondents' organisations. **It was then an obvious next step to ascertain whether there was any relationship between responses regarding the perceived value of tacit knowledge-sharing instruments and the availability of these instruments at the respondents' organisations.** This relationship was investigated via non-parametric correlation testing (results depicted in Table 5.28).

Table 5.28: Correlation between value and availability of instruments

			Instruments' value	Instruments available
Spearman's rho	Instruments' value	Correlation Coefficient	1.000	-.385*
		Sig. (2-tailed)	.	.000
		N	120	120
	Instruments available	Correlation Coefficient	-.385*	1.000
		Sig. (2-tailed)	.000	.
		N	120	120

*p<0.01 (99% sign) - Correlation is significant at the 0.01 level (2-tailed).

**p< 0.05 (95% sign)

There seems to be a negative relationship between responses regarding the perceived value of tacit knowledge-sharing instruments and the availability of these instruments at the respondents' organisations. The correlation coefficient between these two variables is -0.385 (at the 1% level). It can therefore be expected that a respondent would have responded negatively regarding a possible tacit knowledge-sharing instrument if it was not available at his/her organisation.

The next item sought to elicit to which extent ICT (computer programs) is used to record knowledge in the organisation. Most of the respondents (69%) indicated that they were unsure as to the extent to which ICT was used to record knowledge, and 23% indicated that ICT was used seldom to record knowledge in an organisation. Only 8% answered that ICT and computer systems were used often to record knowledge in their organisations.

The final question of this section asked the respondents' opinion of whether they felt that tacit knowledge sharing could improve the productivity of the sales force members of pharmaceutical companies. The results are summarised in the pie chart below (Figure 5.17)

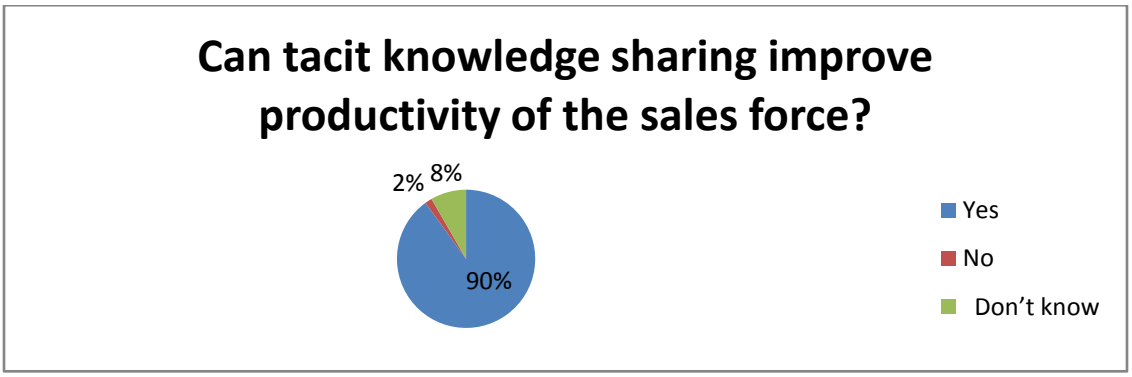


Figure 5.17: Can tacit knowledge sharing improve productivity?

Here it can be seen clearly that 90% of employees were of the opinion that tacit knowledge sharing could improve the productivity of the sales force members in the pharmaceutical industry.

5.3. DISCUSSION OF FINDINGS: INFORMING THE MODEL FOR TACIT KNOWLEDGE SHARING

It will now be interesting to look at the items identified in the new, proposed model for tacit knowledge sharing for the sales force of the South African pharmaceutical industry to determine what the quantitative chapter confirmed and added to the findings arrived at in the discussions in the previous chapters. Dominant trends were identified during the empirical study and these will be attended to under the headings of the proposed model.

5.3.1 Objectives of teams in the pharmaceutical industry:

According to the questionnaire, 90% of the respondents felt that tacit knowledge sharing could improve the productivity of the sales force members in the pharmaceutical industry of South Africa (Figure 5.16). No statistically significant difference could be found between the perception that tacit knowledge sharing could improve the productivity of the sales force members and the years a

respondent had been employed in an organisation. Therefore, no matter how many years' experience the respondents had at the organisation, the belief that tacit knowledge sharing could improve efficiencies and productivities remained constant. There also was no statistically significant difference between cultural groups, gender groups, language groups or age groups as these variables had no influence on the belief that tacit knowledge sharing would improve productivity.

5.3.2 Channels used to gain tacit knowledge

A negative relationship was found between responses about tacit knowledge-sharing instruments and the availability of these instruments at the respondents' organisations. It can therefore be expected that a respondent would answer negatively about a possible tacit knowledge-sharing instrument if it was not available at her/his organisations.

Eighty-nine percent (89%) of the respondents indicating that mentoring programmes were not a valuable instrument for knowledge sharing, or that they did not know whether mentoring programmes were a valuable instrument for knowledge sharing, also said that they did not have mentoring programmes available at their organisations. None of the respondents that had mentoring programmes at their organisations were negative towards them as knowledge-sharing instrument. Seventy-six percent (76%) of the respondents indicated that they had induction programmes for new employees at their organisations and all these respondents indicated that they believed these induction programmes were a valuable instrument for knowledge sharing.

Fifty-eight percent (58%) of the respondents indicated that they had training courses for new employee and all these respondents indicated that they believed these training courses were a valuable instrument for knowledge sharing. All respondents that indicated they had brainstorming sessions as knowledge-

sharing instrument also indicated that this instrument was either valuable or of high value. Seventy-five percent (75 %) of the respondents indicated that workshops to discuss key learning were valuable instruments for knowledge sharing, even though only 9% responded that these instruments did exist in their organisations.

It is therefore apparent that knowledge-sharing instruments are an asset to organisations and once these instruments come into operation, the sales force would realise their value.

5.3.3 What part of knowledge to target?

Of the total number of respondents (120), 81 (67%) said that personal experience would be a valuable source of knowledge to help them manage their sales activities and customers, and 86 (71%) respondents said that mentors, managers and coaches were a valuable knowledge source. One hundred (83%) of respondents stated that formal training courses and seminars would be either valuable or highly valuable in managing their sales activities and customers.

A logical conclusion can be drawn about the effect of time being employed in an organisation, namely that the longer a sales force member is in an organisation, the greater his/her personal experience will be. Therefore, the results of the investigation showed a significant association between the years in the organisation and the value of personal experience in managing oneself and one's sales activities. Of the 56 respondents who indicated that they had been in their organisation for more than two years, 96% perceived personal experience to be valuable and highly valuable in managing sales activities and customers, and 100% of these respondents perceived personal experience to be highly valuable in managing themselves in their daily work.

The mentioned knowledge sources are examples sources of tacit knowledge. The findings in the quantitative analysis confirm that tacit knowledge is the part of knowledge to target in efforts to optimise the effectiveness of the sales force.

5.3.4 Tacit knowledge creation

Exposure to the sources of tacit knowledge is needed in order to create new knowledge. As the sharing of tacit knowledge is important to create new knowledge, it was disappointing to note that only 36% (see section 5.2.2) of the sampled respondents confirmed that knowledge sharing initiatives existed in their organisations. Only 11% of the respondents (fig. 5.9) felt that enough opportunities for the sharing of tacit knowledge were created at their organisations.

5.3.5 Importance of socialisation teamwork in terms of teamwork and creative routines

The questions posed in section one dealt with the sources of tacit knowledge and it is notable that the source of this knowledge is more often than not other people and learning from their experience. It is therefore critically important that as much as possible exposure be given to those individuals that possess the tacit knowledge. Socialisation is important and needs to be facilitated and managed continuously.

5.3.6 Knowledge management

It is apparent that the employees sampled had not received enough guidance and effective management regarding the sharing of knowledge. The findings of the information elicited from questions 2.1 confirm that much attention is still required regarding the management of tacit knowledge in organisations. The answers also suggest that the sharing of tacit knowledge is not generally

encouraged and/or rewarded in the sampled organisations. The responses to the items in question 5.2 further indicated that knowledge sharing formed a part of the incentive calculation in only 13% of the organisations (fig. 5.14). Ways of improving the management of tacit knowledge sharing will be further discussed in Chapter 6.

5.3.7 Capturing, recording and codifying tacit knowledge

From the analysis discussed in this chapter, the conclusion can be drawn that the use of instruments for capturing, recording and codifying tacit knowledge still need a lot of attention. Only 8% of respondents felt that ICT were used often to record knowledge at their organisations. It must further be pointed out that 78% of the respondents were of the opinion that a lack of technical support was a barrier in the way of effective knowledge sharing, and 67% of respondents (table 5.14) regarded a lack of training in ICT systems and processes as a barrier towards knowledge sharing.

5.3.8 Enablers of tacit knowledge sharing

The enablers identified during the literature review and discussed earlier were confirmed during the analysis of the data collected during the quantitative survey and discussed in this chapter, and the important role that management should play when it comes to tacit knowledge-sharing initiatives in organisations was highlighted. Some technological enablers were also identified with 78% (table 5.20) of the respondents indicating that knowledge sharing would be enhanced by having clear directions on how to report and document new knowledge, with a further 77% of the respondents indicating that adequate training in these supporting technologies for recording knowledge would be a good enabler for knowledge sharing in the organisations.

No statistically significant difference could be found between the responses from the sales force members regarding possible enablers for tacit knowledge sharing and culture, age, language, years in organisation and gender. The groups therefore agreed uniformly on the possible enablers for tacit knowledge sharing for the sales force in the South African pharmaceutical industry.

In this regard it must be noted, however, that only 13% of the respondents (fig 5.14) indicated that knowledge sharing was linked to their incentives in some way. Only 8% (fig 5.16) of the respondents felt that enough opportunities were created for knowledge sharing at their organisations.

A negative relationship was found between responses regarding tacit knowledge-sharing instruments and the availability of these instruments at the respondents' organisations, and it therefore could have been expected that a respondent would respond negatively about a possible tacit knowledge-sharing instrument if it was not available at his/her organisations.

5.3.9 Barriers to tacit knowledge sharing

The barriers identified and discussed in the previous chapter were confirmed in the findings of this chapter. There seems to be no statistically significant difference between the responses from the sales force members regarding possible barriers in the way of tacit knowledge sharing and culture, age, language, years in organisation or gender. The distribution of barriers was found to be the same across all categories. The respondents therefore agreed about what the possible barriers were that hindered tacit knowledge sharing in the sales force in the South African pharmaceutical industry.

A statistically significant relationship was found to exist between the willingness to share knowledge and years employed in the organisation. The correlation coefficient between these two variables is 0.303 with a p-value of 0.001 (at the

1% level). The mean score of the respondents that indicated they had been in the organisation for less than a year was 5.7, for those in the organisation between one and two years the mean score was 6.6 and for those in the organisation for longer than two years, the mean score was 7.7. The results indicate that new employees were more willing to share their knowledge, but this willingness decreased the longer they stayed in the organisation.

It may therefore be inferred that experienced employees are not always willing to share their knowledge and this is supported by the finding that 96% of the respondents who indicated that they had been in the organisation for more than two years, also indicated that they agreed or strongly agreed with the statement that they needed to guard their knowledge to get ahead in the organisation.

A statistically significant relationship was found between the willingness to share knowledge and the age of respondents indicating that younger employees were more willing to share their knowledge, but this willingness decreased as the age increased. Older employees have more tacit knowledge and experience to share and this is the knowledge that organisations would want to capitalise on. The barriers need to be removed before an organisation can tap into the knowledge of older employees.

There also was a statistically significant relationship between the willingness to share knowledge and the race of respondents, indicating that organisations need to take cognisance of different cultures in the organisation and be sensitive to this issue when embarking on knowledge-sharing strategies.

It was further found that a statistically significant relationship existed between the ways in which different age groups experienced or perceived the number of barriers in their organisations. As mentioned, older employees identified more barriers to tacit knowledge sharing in their organisations and also were not as willing to share their tacit knowledge as the respondents who were younger and

had been in the organisation for a shorter time. It was also found that culture, language, gender and years in the organisation did not influence the responses as to what the possible barriers were in organisations. The groups therefore agreed uniformly on the possible barriers hindering tacit knowledge sharing among the sales force members in the South African pharmaceutical industry.

5.3.10 Outcomes of successful tacit knowledge sharing

During the literature study, as discussed in Chapter 3, many positive outcomes of successful tacit knowledge sharing were identified and these were confirmed by the findings put forward in this chapter. The importance of tacit knowledge sharing in promoting workforce efficiency is a crucial factor to recognise in becoming more productive. It was also confirmed that deploying tacit knowledge would add value to and enhance the capabilities of the entire sales force, thereby leading to a sustainable competitive advantage for the organisation.

The first question in section three asked if the respondents were of the opinion that sharing and acquiring new knowledge would improve their productivity as sales force members. Ninety percent (90%) of the respondents (fig. 5.13) answered yes, 5% answered no and 5% said that they did not know whether sharing and acquiring new knowledge would improve productivity. Ninety percent (90%) of the respondents also believed that sharing and acquiring of new knowledge would improve their productivity as sales force members, but 69% of the respondents (fig. 5.16) indicated that not enough opportunities were created for tacit knowledge sharing in their organisations.

Therefore, 90% of the respondents were of the opinion that tacit knowledge sharing could improve the productivity of the sales force members of the pharmaceutical industry, indicating the value of this study regarding tacit knowledge sharing for the sales force of the South African pharmaceutical industry.

5.4 SUMMARY

In this chapter the quantitative study that was conducted was attended to and the data collected by means of the questionnaires were analysed. The dominant trends investigated in the quantitative research were identified and were subjected to further investigation by means of the qualitative study that will be described and discussed in Chapter 6. It was apparent that respondents believed that tacit knowledge sharing could improve the productivity and effectiveness of sales force members. The researcher also found that not enough opportunities were created for tacit knowledge sharing at the sampled organisations. ICT also needs to be utilised better for the recording of knowledge as only 8% of the respondents responded that it was used adequately for the recording of knowledge at their organisations.

It was apparent that there are many barriers to tacit knowledge sharing such as the lack of correctly allocated time and space as well as the lack of direction from management leading to a lack of trust in teams. These barriers will also have a detrimental influence in organisations with diverse cultures, as trust is needed to decrease any cultural stereotype that might exist. Many positive enablers for optimising tacit knowledge sharing in organisations were identified and enablers were also found that will benefit the promotion of better understanding of cultural diversity in the workplace, such as making tacit knowledge sharing part of the corporate strategy and motivation sharing behaviour as well as rewarding this behaviour.

The above-mentioned trends and issues will be verified in the next chapter by discussing the findings of the qualitative research that was conducted and through which verification was sought. This chapter presented a detailed description of the data analysis done during the qualitative investigation and the importance of the study was also highlighted. Two hundred questionnaires were

handed to sales force members to complete. One hundred and twenty were received by the researcher and the data obtained were discussed and interpreted in terms of the research aim of this study. In the next chapter the findings of the study will be discussed on the basis of the analysis of data collected by means of a qualitative investigation done in conjunction with the quantitative survey with the purpose of triangulation, that is, to verify the findings discussed in this chapter and to add weight to the findings.

CHAPTER 6

QUALITATIVE INVESTIGATION: REPORT ON DATA AND FINDINGS

6.1 INTRODUCTION

In the qualitative approach to research the aim is mainly to understand the meaning that people attach to matters that form part of their everyday lives, therefore the qualitative study in this research was done to elicit the participants' accounts of meaning, experiences, perceptions beliefs and values regarding the phenomenon under study, that is, the optimisation of tacit knowledge sharing (*cf.* Fouche and Delport, 2002:79).

The next step in the study, therefore, was to test the dominant trends found in the literature review by means of a qualitative investigation in order to see if these findings held true for the sales force of the South African pharmaceutical industry. A qualitative investigation was done to provide more clarity on what sales force members and managers in the South African pharmaceutical industry viewed as factors contributing to optimising tacit knowledge sharing in their companies as well as investigating barriers that might be in the way of effective sharing. As the previous chapter was used to discuss the quantitative procedures used in this study, this chapter provides information on the analysis, findings and interpretation of data gathered from the personal interviews. A new model for the sharing of tacit knowledge for the sales force of the South African pharmaceutical industry was proposed in Chapter 2 and Chapter 3 expanded on this model. The findings from the qualitative research in conjunction with the findings of the quantitative research were used to confirm the literature review findings and also to further expand the proposed model and make it applicable to the sales force of the South African Pharmaceutical industry.

This chapter therefore addresses the following problem questions:

- What needs and barriers for optimising tacit knowledge do sales force members and managers in the South African pharmaceutical industry experience?
- What are the expectations of sales force members and management in the pharmaceutical industry in terms of their contribution to optimal tacit knowledge sharing in this industry?
- What management actions can be put in place to facilitate tacit knowledge sharing in the diverse South African pharmaceutical industry?

6.2 PERSONAL INTERVIEWS

Chapter 4 detailed the qualitative procedures used in this study. The theoretical introspection of the qualitative research methods and the reason for using it were also discussed. This is now followed up in this chapter by a discussion of the analysis and interpretation of the data gathered from the personal interviews. As mentioned in Chapter 4, personal interviews were used as data collection method, and the research population comprised ten (10) participants, who were experienced sales force members and managers that were regarded as experts in dealing with the knowledge of sales force members in different forms. As the undertaking with the participants included anonymity to be upheld, and in order to promote the ease of reading the findings in this chapter, the abbreviations used under each question during this chapter to indicate the respondent is explained in Table 6.1 below.

Table 6.1: Abbreviations to distinguish participants

Abbreviation	**Meaning**
M1	Manager one
M2	Manager two
M3	Manager three
M4	Manager four

M5	Manager five
S1	Sales force member one
S2	Sales force member two
S3	Sales force member three
S4	Sales force member four
S5	Sales force member five

The personal interviews were designed for the particular purpose of investigating challenges experienced by the sales force members and management in the South African pharmaceutical industry that may hamper optimum tacit knowledge sharing as well as to explore the views of sales force members and managers in the pharmaceutical industry on strategies that may contribute to optimise tacit knowledge sharing. For the purpose of the study a few guiding questions were formulated so as to help the researcher to achieve his objectives The questions were based on the trends identified during the literature review and were also related to the questions used in the quantitative questionnaires.

6.2.1 Question 1: Viewpoint on tacit knowledge sharing

The participants were asked: **"What is your viewpoint on knowledge sharing between the sales force members of the pharmaceutical industry; and then in particular the tacit aspects of knowledge."**

A number of participants acknowledged the importance of tacit knowledge in their respective organisations. Participants generally agreed that tacit knowledge sharing would benefit team members, but that the utilisation of tacit knowledge sharing was poor. The responses of the individual participants are shared below – first the responses of the managers and then the responses of the sales force members. Some of the key words and phrases were highlighted to stress the importance:

M1: *It is very **important** to tap into the knowledge of all the members of your team as learning from others **will benefit every member** in the team.*

M2: *Knowledge is a **critical resource** in the organisation and sharing tacit knowledge will **add value** to the sales force member.*

M3: *Tacit knowledge sharing happens informally and is **not currently managed** at all. When someone with a lot of tacit knowledge leaves the organisation, the organisation loses significant value from that person.*

M4: *Tacit knowledge in particular is something **not managed** in our organisation.*"

M5: *Knowledge sharing is **very important** and even though the importance of knowledge sharing has actually increased, the amount of knowledge sharing done has decreased. In the past, regional sales managers used to travel extensively with representatives, but due to the increased workload, pace of doing business and the stretched resources, this is **not happening optimally**.*

S1: *I believe that **not enough attention** is given to tacit knowledge sharing and knowledge sharing in general. We battle every day to achieve our targets, but we could achieve more if everyone **will be willing** to share their experience with others.*

S2: *Tacit knowledge sharing is **very important** as sales force members can learn from each other.*

S3: *This is probably something that **has not received enough attention** at pharmaceutical organisations and **more should be done** to facilitate tacit knowledge sharing.*

S4: *Knowledge sharing **has to take place** to transfer the required skills for the sales force members.*

S5: ***Not enough** transfer is taking place, especially from the older sales force members to the newer ones.*

From the above data, it is clear that more needs to be done to facilitate tacit knowledge sharing in organisations as not enough emphasis is placed on this currently. Even though the participants generally had ideas about how knowledge sharing could be useful to them, more needs to be done to promote the advantages of tacit knowledge sharing in order to highlight the benefits that both the individual as well as the organisation can achieve through effective knowledge sharing.

6.2.2 Question 2: Role and importance of tacit knowledge sharing in organisations

Question two, as put to the participants, reads: **"What role does tacit knowledge sharing play in your organisation?"** therefore, how important is tacit knowledge sharing. Managers and sales force members agreed that tacit knowledge sharing does not play a big enough role in their organisations. A number of the participants expressed the opinion that the current initiatives in their organisation were not effective due to various constraints and barriers such as the lack of sufficient time or the lack of a space that would facilitate knowledge sharing. The responses of the participants are listed below with the key ideas highlighted:

M1: ***Not a big enough role*** *due to time constraints.*

M2: ***Not enough attention*** *has gone into unearthing tacit knowledge. Even though tacit knowledge is important for productivity, the current initiatives to explore tacit knowledge have been* ***toothless*** *due to* ***various constraints****.*

M3: *Even though tacit knowledge is very important it plays a* ***small role*** *in the organisation currently. It is* ***not encouraged enough****.*

M4: *It plays a* ***small part*** *even though it is so important, as there are* ***no effective systems*** *available to manage tacit knowledge.*

M5: ***Not enough****, as people underestimate the value of tacit knowledge sharing.*

S1: *As mentioned, **not enough**, maybe due to the value of knowledge sharing not realised by managers and teams.*

S2: *There are a **few knowledge sharing initiatives** in the organisation, but we **do not receive much feedback** and **do not understand the processes**.*

S3: *We would like to use each other's tacit knowledge to our advantage, but we **do not have the correct forum and time** for this.*

S4: ***Not a lot is happening** as people are stuck in doing this the way they have always done it.*

S5: ***Nothing** and **new initiatives are needed**.*

From the above data, it is clear that tacit knowledge sharing is regarded important by organisations even though currently it plays a very small part of their learning focus. Some organisation have limited initiatives in place, but even these initiatives are not coming off the ground due to issues such as limited feedback and lack of time.

6.2.3 Question 3: Barriers to tacit knowledge sharing

The participants were then asked: **"What is your viewpoint on what the barriers to tacit knowledge sharing are in your organisation and why some team members hold on to their knowledge."**

The participants identified many possible barriers in their organisations. Most participants felt that time and lack of a suitable space are barriers to effective knowledge sharing. Most participants also alluded to the lack of motivation and management support towards knowledge sharing as well as that fact that there is no clear communication of reasons given for sharing knowledge. One participant indicated that sharing knowledge would decrease one's job security, because having knowledge others do not have, makes one more powerful in the organisation. Two of the participants also pointed to the lack of systems and

processes to support the sharing and storing of knowledge, as well as the lack of technological resources to support tacit knowledge sharing. The lack of trust among team members was also seen as a significant barrier in the way of effective knowledge sharing. The individual responses of the participants are listed below with the barriers highlighted:

M1: *Sales force members* ***hold on to their knowledge as it makes them more secure*** *knowing that they know more than others and their knowledge will therefore be too valuable to lose.*

M2: ***Time constraints*** *or not clearly allocated time for knowledge sharing. I also believe that the sales force members are* ***not clear on why and how*** *they have to share knowledge. They are also* ***not motivated*** *to share and they also* ***do not necessarily see their managers modelling knowledge- sharing behaviour****.*

M3: ***No official system exists to manage and store*** *tacit knowledge. The sales force members are also* ***not very often in the same physical place*** *due to work responsibilities and demands making it more difficult to share. There are therefore* ***not enough opportunities and/or time*** *allocated in team meetings for tacit knowledge sharing.* ***Members don't understand the value of their knowledge*** *and how it can add value to others. Sales force members also feel that they worked hard to get the knowledge so* ***why must they share****. They therefore* ***see their knowledge as personal advantage rather than team advantage****.*

M4: *Sales force members are* ***not encouraged*** *to share tacit knowledge. The sales force members are also* ***not aware of the value of the knowledge they possess****. They are also* ***not aware of how they can add value*** *to other sales force members* ***or how other sales force members can add value to them by sharing tacit knowledge****.*

M5: *People have* ***silo syndrome*** *where people feel that the knowledge they possess needs not be shared. People also* ***see others as a threat*** *and therefore keep their knowledge to themselves.*

S1: *Currently the focus is on employing the correct people and giving them targets to achieve. Through all the planning, daily workload, etc. the* ***importance of sharing tacit knowledge is lost****.* ***Not enough time*** *is allocated and the* ***correct place and forum*** *to share knowledge are absent.*

S2: *People feel* ***scared*** *to share something they feel might value others due to* ***trust*** *and also* ***criticism*** *from peers.*

S3: *It is very hard to* ***trust*** *people with your knowledge and to know that it will be used to benefit the group. People feel that their own knowledge is their power, so* ***sharing would compromise them****.*

S4: ***Lack of confidence*** *to share is due to the* ***lack of a safe environment*** *to share as well as* ***no clarity*** *on the part of managers modelling the behaviour.*

S5: *The lack of* ***time*** *is a massive issue as the* ***workload*** *and job requirements are not getting any less. The time for personal touch is also limited as the* ***lack of personal touch*** *is a barrier.*

From the above data, it is clear that numerous barriers exist in organisations that are in the way of effective tacit knowledge sharing. The barriers identified by managers and sales force members in the South African pharmaceutical industry correlate closely with the barriers identified during the literature review, as well as the barriers identified during the quantitative analysis. Some barriers mentioned here are again, the lack of time and space, lack of feedback to sales force members, lack of an effective system to capture knowledge and too little management intervention into the process.

6.2.4 Question 4: Enablers of tacit knowledge sharing

In question 4, the participants were asked: **"What do you feel are the enablers of tacit knowledge sharing in your organisation?"**, therefore what would facilitate tacit knowledge sharing among sales force members.

The participants agreed that more time needs to be allocated towards knowledge sharing and that the correct environment would be an important enabler. Human interaction and socialisation also come to the forefront and one participant aptly stated that "tacit knowledge sharing can only take place if human interaction is present." A number of participants also felt that communication about the goals and objectives were important to highlight the value that could be attained through tacit knowledge sharing. Other enablers mentioned, were motivating employees to contribute and incentivising them. Some participants also expressed the need for managers and senior team members to model sharing behaviour. The individual responses are documented below with the enablers highlighted:

M1: ***Trust among members***, ***organised forums/platforms to share knowledge***, *as well as a* ***tangible benefit*** *in the form of incentives, etc. will enable tacit knowledge sharing.*

M2: ***Enough time*** *must be allocated to properly share knowledge and* ***make the employees feel valued****. I would also say that the* ***correct forum and environment*** *must be created where people* ***feel comfortable and safe to share*** *knowledge. People also need to* ***understand why they have to share knowledge*** *and, lastly, there should be* ***better motivation*** *for people to share, maybe in the form of incentives.*

M3: *It will be important to* ***clearly communicate*** *what the value of tacit knowledge is and why every member must share in. It will also be of value if you* ***encourage people*** *to have a problem solving approach to one another's problems. You can also have* ***rewards*** *other than money to*

reward people for sharing knowledge, for example, by giving them a coaching job for new sales force members. They will then feel important and also feel a sense of ownership for the results of the person they coach. ***Monetary incentives*** *are also important. You might give some incentives to a person if other team members report to the manager about a specific sales force member that has contributed to them with tacit knowledge.*

M4: *Every sales force member needs to* ***understand the value of his/her knowledge*** *and how he/she can add value to the team. You need to dedicate specific* ***time*** *in team meetings to tacit knowledge sharing.* ***Rewarding*** *people for sharing tacit knowledge will be important.*

M5: *You will need* ***formal, planned sessions*** *to set the tone for tacit knowledge sharing.* ***Adding it to agendas of meetings*** *would also contribute to the value added. The starting point for* ***creating a trusting environment*** *would be for* ***managers and senior sales force members to model tacit knowledge sharing behaviour****. This would assist in* ***creating a knowledge sharing culture****.*

S1: *Give more* ***time*** *and create the* ***correct environment*** *to share knowledge. Also, assure the sales force members that their knowledge would be used to* ***benefit the team and themselves*** *and therefore sharing would not compromise them in any way. Even linking sharing to* ***incentives*** *would work well.*

S2: ***Trust*** *and* ***confidence*** *to share tacit knowledge will be created by allowing* ***sufficient and clearly indicated time and place*** *for sharing to take place. Sharing behaviour would be* ***enforced by managers modelling the behaviour****.* ***Clarity on why we share and how it will benefit*** *each other would also assist in crafting a sharing culture.*

S3: ***Creating a culture of coaching and mentoring*** *would be necessary for stimulating tacit knowledge sharing.*

S4: *Making better use of **cycle meetings, sales conferences,** as well as **cluster meetings where face to face contact is possible**. You therefore need the sales force members to **be in contact with each other in order to create the correct environment**. Tacit knowledge sharing can only take place if human interaction is present.*

S5: ***Best practice sharing sessions** where sales force members get the opportunity to share their successes and failures with each other. **Good communications** on what the **goals and objectives of every session** will be are necessary to achieve tacit knowledge sharing success.*

Apparent from the above data is that there are numerous tacit knowledge sharing enablers and that these enablers will contribute to effective knowledge sharing. As the participants were either managers or sales force members of pharmaceutical organisations operating in South African, it is interesting to note that the enablers mentioned, correspond closely with the enablers identified during the literature review and the quantitative investigation. Some examples include the creation of a optimal space for sharing, increased focus, direction and management intervention; and better communication regarding the process of sharing knowledge.

6.2.5 Question 5: Instruments for tacit knowledge sharing

The participants were then asked: **"What tacit knowledge sharing instruments/tools are currently in place for the sales force members to utilise in your organisation?"**

Two of the managers indicated that no sharing instruments or tools were available in their organisations. A number of the participants indicated that team meetings in various forms could be used for tacit knowledge sharing, but again indicated that the time and place for sharing knowledge were not sufficient. Participants also indicated that certain media tools such as the internet and

social sites were used for knowledge sharing, but the lack of feedback after sharing demotivated them. The individual responses are again listed below with the instruments and tools highlighted:

M1: *Not enough opportunities due to time constraints, but an effort to share knowledge during quarterly* ***cycle meetings*** *and* ***monthly teleconferences*** *was introduced this year. It is a very slow process as people are scared to share knowledge due to scrutiny from peers. The company introduced a* ***talent growth website*** *where your development needs can be addressed, but it is very slow to take off due to lack of motivation and time.*

M2: *Currently the company is trying to make use of* ***social platforms such as the intranet and secure electronic media pages*** *to motivate employees to share knowledge and ideas. We also have a dedicated* ***intranet site*** *where employees can communicate their knowledge and developmental needs.*

M3: *Currently nothing in the organisation*

M4: *Nothing*

M5: *Not enough in place currently. We have* ***best practice meetings*** *but the bureaucracy is in the way of effective sharing. People are currently more worried about the processes taking place vs. the spirit in which the meetings should take place.*

S1: *We have a* ***website*** *and other* ***social media tools*** *to share ideas, but not enough marketing is done around this. There is no specific time or place allocated for sharing.*

S2: *Primary focus in the organisation is towards achieving the objectives as can be understood. Therefore all the platforms created are kind of washed down due to a lack of motivation to participate.*

S3: *Platforms such as* ***social media sites*** *and* ***intranet*** *are created to help employees share knowledge.* ***Cycle meetings*** *and* ***weekly planning***

meetings *have some elements of tacit knowledge sharing, but not enough clarity and time.*

S4: *We have a* ***hotline for sharing ideas*** *and knowledge, but not enough feedback on where the knowledge will be used and how it contributes to your own success.*

S5: *No modelling from management regarding tacit knowledge sharing is currently taking place.*

From the above data, it is apparent that not enough tacit knowledge sharing instruments existed at organisations or that the existing instruments were not utilised enough. The lack of motivation, as well as the lack of management support in using these tools and instruments was stressed as well as the lack of feedback that the participants received after sharing.

6.2.6 Question 6: New systems for tacit knowledge sharing

Question 6 asked the participants: **"What form of practices, channels, systems, structures and processes can be implemented, in your view, to improve the level of tacit knowledge sharing for the sales force members in your organisation?"**

Many examples of possible structures as well as processes for effective tacit knowledge sharing were supplied, such as management modelling the behaviour, motivation and effective usage of electronic media and ICT. Most of the participants felt that more planning should go into sharing sessions and therefore the correct time and place should be provided. Participants felt that if they saw other people modelling the behaviour, most will follow if they were clear on the goals and objectives. This would assist in uncovering knowledge needs for the participants. The importance of management was also stressed and one of the participants indicated aptly that "management needs to demonstrate knowledge sharing and then the rest will follow." The individual responses are

below with the examples of structures, processes, practices and channels highlighted.

M1: *There must be some **form of motivation and reward** for members to share knowledge. If it is a generally accepted rule in the company to share knowledge and this **behaviour is modelled by managers**, it will catch on faster.*

M2: *I think that **clarity on why** we share is needed. The **process needs to be outlined** as to **where we share, when we share and then why we share**.*

M3: *You can make use of **electronic media** or in-house tools such as the intranet where sales force members can follow one another. You then post some of your success stories from the field. You can also create an **official time per week**, month, etc. where learning and tacit knowledge sharing can take place.*

M4: *It will be important to create **official time** where sales force members can share their success stories as well as mistakes so that others can learn from you. You can also use team meetings to give airtime to tacit knowledge sharing by letting sales force members **present to their team mates the best lessons learned** for a specific time or problem.*

M5: *You would firstly need to **create need awareness** for sales force members so that they can see the value of knowledge sharing. Tacit knowledge sharing needs to become **part of the formal induction processes** and needs to be planned better. **Measurement of tacit knowledge sharing** is a problem and this is where many initiatives fall flat. A simple way to put a measurement in place would be to **have minutes of your meetings** so that you can revisit what knowledge has been shared in order to reward.*

S1: ***Focused planned knowledge sharing sessions** where managers take the lead would go a long way. To enforce this might not work, but*

modelling of knowledge sharing behaviour by senior sales force members *would create the correct culture for tacit knowledge sharing.*

S2: *We first need to create trust between members and then know that our knowledge will be used to benefit everyone. A* ***dedicated time and place*** *to share knowledge where everyone has to contribute will help a lot.*

S3: *People need to know why and how to share and they must see this* ***behaviour demonstrated by senior members*** *of the team. It must be a way of doing things in the organisation.*

S4: *You need to* ***create a space*** *where people have the willingness to transfer and receive knowledge. A starting point would be to* ***clearly identify the knowledge needs*** *of the sales force and then* ***have an action plan on knowledge sharing****.*

S5: ***Management needs to demonstrate knowledge sharing*** *and then the rest will follow. If someone shares and it benefits the team, there must be a* ***reward*** *attached to that. You also have to reward the person in front of others in order to enforce behaviour.*

From the above data, it is clear that tacit knowledge sharing does not just happen on its own. It needs to be well planned and documented in order to be of value, and management needs to come to the forefront more prominently. Having clear goals and direction when embarking on knowledge sharing and communicating these goals, needs and direction to all the stakeholders will assist greatly in promoting effective tacit knowledge sharing.

6.2.7 Question 7: Organisational benefits of tacit knowledge sharing

In question 7, the participants were asked: **"What organisational benefits, in your opinion, could be derived from tacit knowledge sharing?"**

Most of the participants felt that more tacit knowledge sharing was required for the sales force members and that tacit knowledge sharing would contribute

greatly towards the effectiveness of employees. Some participants felt that tacit knowledge sharing would build confidence as well as improve team cohesion, as sharing teams will start to trust one another. Most of the participants felt that tacit knowledge sharing would assist employees to not repeat mistakes of the past, as well as to "draw from the experience of others, thereby learning to succeed faster." Another participant stated that tacit knowledge sharing would greatly contribute towards the "knowledge of the art of salesmanship, product knowledge, competitor insights, customer intimacy as well as knowledge on where the business potential lies." The responses of the participants are listed below with the organisational benefits highlighted.

M1: *Learning from experienced members or people with multi-disciplinary skills and knowledge would help other sales force members to* ***achieve something that they struggled with in the past****.*

M2: *Tacit knowledge sharing would* ***contribute to employee productivity*** *and productivity is critical for success. Every organisation is looking for a competitive advantage and I believe that* ***sustainable competitive advantage for pharmaceutical organisations lies in tacit knowledge sharing*** *where* ***employees can draw from the experience of others, thereby learning to succeed faster****.*

M3: *You not only need skills to be effective, but also knowledge of everything that you job entails. You need to* ***learn how to apply the skills you have*** *for your own and the organisation's benefit and this is where tacit knowledge sharing comes in. Tacit knowledge sharing will also* ***build confidence*** *for the sales force members faster as well as maintaining confidence levels for the team. This will boil down to sales success if implemented correctly.*

M4: *Tacit knowledge sharing will contribute to* ***improved team cohesion****. Sales force members will feel as if they are a bunch of experts as they are helpful towards one another's successes.*

M5: *Tacit knowledge sharing is* ***essential for achieving business goals and objectives****. The business environment is ever changing, spending power is reduced and there are a lot of pressures on the economy. Sales force members therefore need to work smarter and have to get knowledge from wherever they can to assist them in their daily operations.*

S1: *Definitely* ***capitalising on other members successes*** *in the field as well as* ***limiting the repetition of mistakes*** *made.*

S2: *Drawing from the experience and knowledge of others would* ***assist you in managing yourself and the people around you****.*

S3: ***Mistakes would also not be replicated*** *in the field and* ***new opportunities would be generated*** *as two minds are better than one.*

S4: *Yes, you have to identify at field force level what makes a sales force member successful, efficient, effective and productive. Then you can identify what knowledge you need to have to achieve these goals. From there you can look at the possible sources that might possess this knowledge and possible ways to unearth the knowledge.*

S5: *Sales force members need to have* ***knowledge of the art of salesmanship, product knowledge, competitor insights, customer intimacy as well as knowledge about where the business potential lies****. You can therefore work towards achieving the above through tacit knowledge sharing. You would also need managers to model this behaviour and make the time and create the opportunity to share.*

From the above data, it is clear that more tacit knowledge sharing is required for the sales force members and managers alike in order to contribute to sustainable competitive advantage in the workplace. Sales force members need to learn from each other and act on new knowledge gained. It is, however, necessary for the management to identify why tacit knowledge needs to be shared and how they will go about sharing this in an effective manner.

6.2.8 Question 8: Tacit knowledge sharing leading to greater productivity and efficiency.

The participants were then asked: **"What is your opinion on whether the sharing of tacit knowledge between sales force members would lead to greater productivity and efficiency? Therefore, would tacit knowledge sharing lead to fast-tracking the targeted performance of sales force members?"**

Most of the participants felt that tacit knowledge sharing would lead to greater productivity and efficiencies on the part of employees. Three participants indicated that tacit knowledge sharing would fast-track the performance of sales force members. Manager three added that "tacit knowledge sharing would definitely lead to improved effectiveness as this is how well they get things done." The responses of the participants are listed below.

M1: *Yes, knowledge is power, and learning from other sales force members' successes and failures* ***would facilitate faster development*** *for every member. Even experienced members could learn from the successes and failures of new members.*

M2: *Yes, tacit knowledge sharing would* ***enhance the productivity*** *as well as* ***speed up the time it takes to achieve your objectives*** *as you learn why other people are successful and what they do things differently from you.*

M3: *Productivity is an attitude, in my opinion, but tacit knowledge sharing would definitely* ***lead to improved effectiveness*** *as this is how well they get things done. It will surely* ***fast-track the performance*** *of a tacit knowledge empty person.*

M4: *Yes, in time and if you have a culture of tacit knowledge sharing in place. You would also have to create systems for recording and storing of tacit knowledge in order to support the new culture.*

M5: *Yes, it will as tacit knowledge sharing is very important.*

S1: *Yes, if the correct environment and culture are created and enough time is allocated to sharing, the benefits would be derived. Sharing would* ***lead to greater insight into what is required for success*** *in the field.*

S2: *Yes,* ***it would fast track the performance and productivity*** *of the sales force members.*

S3: " Yes, the **performance** of employees, especially new employees, would be **improved faster**."

S4: *Yes*

S5: *Yes*

The main themes arising from the above data are that tacit knowledge sharing will contribute to greater effectiveness, efficiency and productivity for the sales force members of the South African pharmaceutical industry. It is also clear that the participants were of the opinion that tacit knowledge sharing would fast-track performance of the sales force members as they would gain insight faster into what is required for success in the field. Tacit knowledge sharing will also facilitate faster development and speed up the time it takes to achieve your objectives.

6.2.9 Question 9: Importance of different cultures sharing knowledge

Question 9 posed to the participants read: **"Do you think that creating an environment where employees of different cultural backgrounds can openly share knowledge has any business importance?"**

Most participants felt that sensitivity to different cultures was important to create a trusting environment in the workplace. Sales force members could learn from other members in a diverse group as this would contribute to effective selling as the customers are culturally diverse. Manager three added that "becoming aware

of cultures and sub-cultures through tacit knowledge sharing will make individuals more sensitive to tailor their selling messages for different cultures". Sales force member three added that "as we live in a country with a number of diverse cultures, it would be very important to better understand each other's culture and then find a way to openly share knowledge and ideas." The individual responses are again listed below with the important concepts highlighted.

M1: ***Cultural intelligence is at the forefront of success*** *for sales force members and therefore learning from other members in a diverse group could only have a* ***positive impact on their own productivity and efficiency*** *in the field.*

M2: *Yes, we need to accommodate different cultures as we are a culturally diverse nation and workforce. We* ***can learn a lot from the ways in which different cultures go about*** *matters and how to* ***handle different customers****.*

M3: *Yes, in today's selling society, people sell to different cultures. Therefore, black people sell to white people and vice versa so cultural awareness and becoming aware of cultures and sub-cultures through tacit knowledge sharing will make individuals more sensitive to* ***tailor their selling messages for different cultures****.*

M4: *The country is made up of people with different cultures and sub-cultures and we are not as schooled in understanding different cultures as we would like to be. Tacit knowledge sharing can therefore be a* ***valuable tool to for us to learn from different cultures*** *in our team in order to* ***make our sales force more effective when selling to different cultures****.*

M5: *Yes, it is so important in our multi-cultural society to take everything into consideration when setting goals.*

S1: *We live in a culturally diverse country so the* ***customers would also be culturally diverse****. During the process of* ***creating trust for knowledge***

***sharing**, the different cultures in a group must be taken into account. It would therefore be of value for sale teams to openly share different cultural ideas and perspectives.*

S2: *Yes, we always **have to be sensitive to cultural diversity** and how to motivate all employees to share knowledge as **we can learn from everybody**.*

S3: *As we **live in a country with a number of diverse cultures**, it would be very important to better understand each other's culture and then find a way to openly share knowledge and ideas. This would benefit every sales force member.*

S4: *We need a better understanding of different cultures. We can learn from our peers as we have different cultures in our group and then **apply the new knowledge to our customers and daily jobs**.*

S5: *Yes, as we need to understand people better in order to **get away from preconceptions and stereotypes**.*

The above data clearly indicate that cultural intelligence is of utmost importance for the survival in the South African market as the customer base is culturally diverse due to different races, religions, customs and traditions. Creating a culture of knowledge sharing would contribute to better understanding and sharing of cultural preferences and knowledge.

6.2.10 Question 10: What to do in a cultural diverse organisation with tacit knowledge

The participants were asked: **"What is being done in your organisation to deal with the tacit aspect of knowledge in a culturally diverse workforce."**

Most of the participants pointed out that not enough is being done in their organisations to deal with the tacit aspect of knowledge in a culturally diverse workforce. One of the participants added that the organisation was too scared to

address cultural issues, “due to cultural differences still being a sensitive issue to deal with.” Another participant added that “we can see the value in our team of sharing openly how different cultures would respond to different ways of selling.” Thus, they were learning from each other and thereby improving their selling techniques to different customers out there. The participants added that a “course where you address cultural differences and preferences so that the common understanding of different cultures can improve” would enable multicultural tacit knowledge sharing, and the creation of an “internal society where it is ok to discuss different cultures without being prejudiced” will serve as another enabler.

Following are their individual responses regarding how the culturally diverse workforce was taken into account when dealing with tacit knowledge sharing:

M1: *Again **not enough**, but recently we had **consultants** in training the team on how to sell to culturally diverse customers. The customers out there are culturally diverse, so every member could learn from other groups on how to better manage their diverse customers.*

M2: *The current systems in place for tacit knowledge sharing are there for everyone and accessible to everyone. So the issues are not barriers in the way of different cultures, but rather overall barriers in the sense of time and motivation.*

M3: ***Nothing** in place yet for dealing with cultural issues. People are maybe **ignoring the importance due to cultural differences still being a sensitive issue** to deal with.*

M4: ***None in place***

M5: ***Nothing** for this particularly important issue.*

S1: *Culture is still a very sensitive issue, but we can see the value in our team of **sharing openly** how different cultures would respond to different ways*

of selling. This is therefore a good example of knowledge sharing in our division.

S2: ***Nothing*** *is done for specific cultures as you would like everyone to share irrespective of culture. Different cultures do things differently and it* ***would therefore be of value to learn from everyone****.*

S3: *We need to have some form of* ***course where you address cultural differences and preferences*** *so that the common understanding of different cultures can improve. We need to* ***create an internal society where it is ok to discuss different cultures*** *without being prejudiced.*

S4: *People are still* ***scared to address*** *cultural differences head on.*

S5: ***Nothing****.*

It can be derived from the above data that more should be done when dealing with the tacit aspect of knowledge within a cultural diverse workforce. Even though cultural diversity might still be a sensitive issue in some organisations, the knowledge one gains from different cultures in one's group will assist with effectiveness in the field, as the customers are culturally diverse. It is clear from the above data that once one starts planning a tacit knowledge sharing session one should decide where cultural diversity will feature and how this will be addressed. It should therefore be a conscious choice to address cultural diversity through tacit knowledge sharing.

6.2.11 Question 11: How to better deal with a multi-cultural workforce

The participants then were asked: **"When dealing with a multi-cultural workforce, what do you think would be fundamental to more effectively managing tacit knowledge sharing between different cultures?"**

Most of the participants felt that in order to deal more effectively with a multi-cultural workforce when it comes to tacit knowledge sharing one needs to create the correct forum by allocating enough time and assigning the correct place for

sharing to take place. The participants pointed to a trusting environment, free of prejudice and intolerance. Another participant added that motivations in the form of incentives would also spur employees on to get past their fears and share their knowledge. Manager four stressed the importance of “understanding different cultures” and being more sensitive to customer behaviours, needs and underlying racial preferences. Manager four added that this was important in order to use this to their advantage when selling, but first team members should be “willing to share their cultural differences and preferences.” Manager three stated that “awareness programmes on cultural intelligence will sensitise people to be more open to other members’ behaviours and cultural preferences”, and therefore, to train people in this would be highly valuable. Manager three expressed the opinion that organisations with current effective tacit knowledge-sharing initiatives would find it easier to bridge cultural diversity, as these teams would already be used to openly share ideas.

The responses of the participants are again quoted below with the fundamental issues highlighted:

M1: ***Creating a trusting environment*** *would be pivotal for success. Linking knowledge sharing to some form of* ***motivation and/or rewards*** *would speed up the process.*

M2: ***Trust*** *would be very important and to* ***motivate*** *all employees to share, and learn from each other. Managers’ role would be to* ***create the correct forum for sharing****; therefore,* ***enough time*** *and the* ***correct place*** *as well as* ***linking the sharing to incentives*** *may be the answer.*

M3: *An* ***awareness programme on cultural intelligence will sensitise people*** *to be more open to their team members’ cultural preferences and behaviours along cultural lines. Certain cultures will choose to be handled in a certain way or to handle problems in a certain way so to train people on this would be highly valuable for any team. If you* ***have a corporate***

***culture of sharing tacit knowledge in place**, it would be much easier to address cultural differences in a multi-cultural workforce.*

M4: *It is important for sales force members to **understand different cultures** and tacit knowledge sharing will have immense value here. You can use your tacit knowledge sharing meetings to train sales force members on how not to be offended by resistance and to be more **sensitive to customer behaviours and needs**. If you have a multi-cultural workforce, you can make use of tacit knowledge sharing sessions to share different cultural views so that people can **take note of underlying racial preferences** in order to use this to your advantage when selling. Team members **need to be willing first to share their cultural differences and preferences**, so it will be very important to create a **trusting environment free of prejudice and intolerance**. If you can create a tacit knowledge sharing culture, you will be successful.*

M5: *We need to firstly create an understanding as to cultural differences and preferences. You need to formally address the cultural barriers in order to create better cultural awareness. If you have already created a trusting, knowledge sharing team culture, then you can also stimulate the need for people to integrate.*

S1: *Creating an **environment where all members feel safe** to share ideas irrespective of race, background and experience. **Trust** is therefore crucial.*

S2: *If the **reason why we share is clear** and what will be done with the new knowledge; therefore, how it will benefit me, then the issues surrounding the management of a multi-cultural workforce and tacit knowledge sharing would be alleviated.*

S3: *I think that by first **creating a knowledge sharing culture** in the organisation, you will then easily address any cultural issue. The sales force members also need to **understand their role and responsibility***

towards tacit knowledge sharing and thus, through this clarity, you will further alleviate any issue that different cultures might create.

S4: ***Trust** is obviously very important and if you have already created a **trusting environment** where people openly share business knowledge, the sharing of cultural preferences and insights would be easier. You can start with things like how to greet people from various cultures, how to act in front of customers from different cultural backgrounds.*

S5: *You need to have an environment where people can **trust** each other and have enough **respect** for different people. You have a major barrier with older people in your group as they are used to doing things their way and do not always see the need to change.*

From the above data, it is clear that there are many ways to manage tacit knowledge sharing between different cultures better when dealing with a multi-cultural workforce. Allocating enough time and resources towards sharing as well as creating a knowledge sharing culture will assist in alleviating any diversity issues experienced by the team. This will in effect create trust and respect between team members and facilitate better communication and understanding of diversity between sales force members.

6.3 ELEMENTS OF TACIT KNOWLEDGE SHARING

As with the previous chapter on the quantitative investigation, the items identified in the new, proposed model for tacit knowledge sharing for the sales force of the South African pharmaceutical industry were revisited to establish what the qualitative chapter confirmed and added to the findings in the previous chapters.

The qualitative investigation discussed above has revealed the following dominant trends with regard to tacit knowledge sharing and sales force effectiveness which will be discussed under the headings of the proposed model.

6.3.1 Objectives of teams:

In Chapter 2, the main objective of sales force teams in the pharmaceutical industry was identified as to increase competitiveness and gain a competitive advantage. Nothing during the qualitative investigation suggested otherwise, so the objective stays the same as identified in Chapter 2.

6.3.2 Channels used to gain tacit knowledge

The findings in Chapter 2 suggested that organisations need to leverage the knowledge of their intellectual capital as well as coordinate the knowledge and experience available in the organisation. This is therefore the channel that needs to be followed in order to increase competitiveness and gain a competitive advantage. These findings were confirmed by question one of the qualitative analysis as it is important to tap into the knowledge of all the members of your team as learning from others will benefit every member in the team thereby adding value to the sales force members.

6.3.3 Knowledge targeting

During the qualitative analysis, participants had the same viewpoint on tacit knowledge sharing in that it is of utmost important for future sustainable competitive advantage and productivity.

Regarding the question as to what part of knowledge to target in order to achieve the organisational goal of increasing productivity and competitive advantage, responses to question one of the qualitative research confirmed the importance of tacit knowledge as sales force members can learn from each other.

6.3.4 Tacit knowledge creation

The analysis of the literature review attended to in Chapters 2 and 3 suggested that tacit knowledge develops over time through successful experience and is maintained through sharing. None of the findings in the qualitative investigation suggested otherwise, but did add some concerning viewpoints. In question two of the qualitative research it was highlighted that not enough attention has gone into unearthing tacit knowledge and that tacit knowledge sharing plays a small role in some of the organisations as it is not encouraged enough.

As it was highlighted that there are not enough effective systems available to manage tacit knowledge, a lot of work still needs to be done in order to effectively improve tacit knowledge sharing in South African pharmaceutical organisations and to create platforms to promote the sharing of tacit knowledge, be it by socialisation or other examples of enabling environments.

Knowledge management remains important for the sales force of the South African pharmaceutical industry as sales force members need to have knowledge on the art of salesmanship, product knowledge, competitor insights, customer intimacy as well as knowledge on where the business potential lies. All the above can be achieved through tacit knowledge sharing if managers model this behaviour and make the time and create the opportunity to share.

6.3.5 Importance of socialisation in terms of teamwork and creative routines

The investigation done by means of the literature review made it clear that the foundation of knowledge transfer and creation is human interaction. The creation of platforms where socialisation can take place was highlighted as well as the correct forum and time for this. Sales force members need to be in contact with

each other as tacit knowledge sharing can only take place if human interaction is present.

6.3.6 Knowledge management

Investigation done via the literature review reported in Chapters2 and 3 suggested that the management of tacit knowledge is important as this will enhance the performance and competitiveness of employees. Findings in the qualitative investigation painted an unattractive picture on the state of tacit knowledge management in South African pharmaceutical organisations. Not enough attention is given to tacit knowledge sharing and knowledge sharing in general and sales force members feel that they could achieve more if everyone will be willing to share their experience with others.

Concerning is that it became clear that when experienced sales force members with a lot of tacit knowledge leaves the organisation; the organisation loses significant value from those people. Another suggestion towards effectively managing tacit knowledge sharing was to identify at field force level what makes a sales force member successful, efficient, effective and productive. The next step in the management process would be to identify what knowledge you need to have to achieve these goals and then to look at the possible sources that might possess this knowledge and possible ways to unearth the knowledge.

6.3.7 Capturing, recording and codifying tacit knowledge

Regarding capturing, recording and codifying tacit knowledge, participants shared that there were some instruments in place at their organisations, mostly in the form of ICT (information and computer technology) and team meetings. Participants shared some views on systems and processes needed in organisations for tacit knowledge sharing. Motivation, clarity on sharing goals,

link sharing to incentives and having sufficient time and space available for sharing came to the fore.

The suggestions for capturing, recording and codifying tacit knowledge include:

i. Team meetings: Quarterly cycle meetings and monthly teleconferences were some of the initiatives as well as best practice meetings as a vehicle to capture knowledge. It was stressed however that people are currently more worried about the processes taking place versus the spirit in which the meetings should take place and this need to be addressed by management.

ii. Social media and the internet: Some suggestions included a talent growth website where your development needs can be addressed even though some of these initiatives are very slow to take off due to lack of motivation and time. Social platforms such as the intranet and secure electronic media pages to motivate employees to share knowledge and ideas were suggestions of vehicles that could assist in capturing tacit knowledge. Others were websites and other social media tools to share ideas but barriers there are no specific time or place allocated for sharing. Platforms such as social media sites and intranet are created to help employees share knowledge and electronic media or in-house tools such as the intranet where sales force members can follow one another were useful for members to post some of their success stories from the field.

iii. Telephone hotline for sharing tacit knowledge: The idea of a hotline for sharing ideas and knowledge were put forward, but feedback on where the knowledge will be used and how it contributes to your own success is needed for success.

iv. Management modelling sharing behaviour: Modelling from management regarding tacit knowledge sharing was a suitable vehicle for successful tacit knowledge sharing.

v. Recording the shared knowledge by having planned meetings with an agenda and minutes: The idea was that you will need formal, planned sessions to set the tone for tacit knowledge sharing. Adding an agenda to the meeting would also contribute to the value added.

vi. Measurement of sharing: Part of correcting the recording and codifying of sharing behaviour would be to put measures in place as the measurement of tacit knowledge sharing is a problem and this is where many initiatives fall flat. A simple way to measure sharing would be to have minutes of your meetings so that you can revisit what knowledge has been shared in order to reward.

vii. Motivation required for using the tools: Current platforms created for tacit knowledge sharing are seen as kind of washed down due to a lack of motivation to participate.

6.3.8 Enablers of tacit knowledge sharing

Participants shared their view on what they regarded as possible enablers for optimal tacit knowledge sharing in their organisations.

Some of the enablers that were mentioned were:

i. Trust: Trust among members is needed for optimal sharing.

ii. Correct environment to share: Organised forums/platforms to share knowledge are needed for effectiveness and the correct environment must be created where people feel comfortable and safe to share knowledge.

iii. Motivation: Motivation can take many forms. Tangible benefits in the form of incentives would enable tacit knowledge sharing and you can also have rewards other than money to reward people for sharing knowledge, for example, by giving them a coaching job for new sales force members. They will then feel important and also feel a sense of ownership for the results of the person they coach. Other suggestions for motivation include peer acknowledgement where you might give incentives to a person if other team members report to the manager about a specific sales force member that has contributed to them with tacit knowledge. You can then reward the person in front of others in order to enforce behaviour.

iv. Time: It is clear that enough time must be allocated to properly share knowledge and make the employees feel valued. Time must be dedicated in team meetings for tacit knowledge sharing and the creation of enough time for sharing would also add to trust and confidence to share tacit knowledge.

v. Clear communication on the value of sharing: People also need to understand why they have to share knowledge and this needs to be clearly communicated in order to highlight what the value of tacit knowledge is and why every member must share in it. People need to be encouraged to have a problem-solving approach to one another's problems and every sales force member needs to understand the value of their knowledge and how they can add value to the team. It will be important to assure the sales force members that their knowledge would be used to benefit the team and themselves and therefore sharing would not compromise them in any way. Therefore clarity on why sales force members share and how it will benefit each other would also assist in crafting a sharing culture. Good communication on what the goals and

objectives of every session will be is necessary to achieve tacit knowledge sharing success.

vi. Clear roles and responsibilities of every stakeholder towards sharing: The sales force members also need to understand their role and responsibility towards tacit knowledge sharing and thus through this clarity you will further alleviate any issue that different cultures might create.

vii. Managers modelling sharing behaviour: The starting point for creating a trusting environment sits with management as managers and senior sales force members need to model tacit knowledge sharing behaviour thereby creating a knowledge sharing culture. Sharing behaviour would be further enforced by managers modelling the behaviour and focused; planned knowledge sharing sessions where managers take the lead would go a long way. To enforce this might not work, but modelling of knowledge sharing behaviour by senior sales force members would create the correct culture for tacit knowledge sharing.

viii. Creating a sharing culture: It would be required to create a culture of coaching and mentoring for stimulating tacit knowledge sharing.

ix. Share successes and failures: A practical example of how to share stories on successes and failures would be to use team meetings to give airtime for tacit knowledge sharing by letting sales force members present to their team mates the best lessons learned for a specific time or problem.

6.3.9 Barriers to tacit knowledge sharing

All participants mentioned that there are still significant barriers in the way of optimally sharing tacit knowledge. Sales force members hold on to their knowledge as it makes then more secure knowing that they know more than

others and will therefore be invaluable and they also feel that they worked hard to get the knowledge so why must they share. Experienced sales force members therefore see their knowledge as personal advantage rather than team advantage.

This is a significant barrier in the way of effective sharing as sales force members are not clear on why and how they have to share knowledge. They are also not motivated to share and they also do not necessarily see their managers modelling knowledge sharing behaviour. Time constraints or not clearly allocated time for knowledge sharing also contributed to lack of sharing knowledge among sales force members.

Some of the other barriers that emerged from the qualitative investigation were:

i. Lack of systems to manage and store information: It became apparent that very few official systems exist to manage and store tacit knowledge.

ii. Lack of clarity of everybody's roles and responsibilities in sharing: All stakeholders don't necessarily understand the value of their knowledge and how it can add value to others. Sales force members are also not aware of the value of the knowledge they possess. They are also not aware of how they can add value to other sales force members or how other sales force members can add value to them by sharing tacit knowledge.

iii. Lack of motivation to share: Sales force members are not encouraged to share tacit knowledge and people have silo syndrome where they feel that the knowledge they possess needs not be shared. People might also see others as a threat and therefore keep their knowledge to themselves.

iv. Lack of time to share: Sales force members alluded to the fact that not enough time is allocated and the correct place and forum to share knowledge are absent. The lack of time is a massive issue as the workload and job requirements are not getting any less. The time for personal touch is also limited as the lack of personal touch would be a barrier.

v. Lack of trust: People feel scared to share something they feel might value others due to lack of trust and also criticism from peers. It is very hard to trust people with your knowledge and to know that it will be used to benefit the group. People feel that their own knowledge is their power, thus sharing would compromise them.

vi. Lack of optimal environment to share: The lack of confidence to share knowledge can also be attributed to the lack of a safe environment to share.

6.3.10 Outcomes of successful tacit knowledge sharing

Even though participants felt that the full potential of tacit knowledge sharing and its benefits had not yet been optimally unearthed in every organisation, they did acknowledge that there were clear benefits for organisations that could capitalise on tacit knowledge sharing.

Participants all agreed that tacit knowledge sharing would lead to greater productivity and efficiency of the sales force members in the South African pharmaceutical environment. Learning from experienced members or people with multi-disciplinal skills and knowledge would help other sales force members to achieve something that they struggled with in the past.

Some of the other outcomes of successful tacit knowledge sharing mentioned, include:

i. Increased employee productivity: Tacit knowledge sharing would contribute to employee productivity and productivity is critical for success.

ii. Increased competitive advantage: Many opportunities for sustainable competitive advantage for pharmaceutical organisations lie in tacit knowledge sharing where employees can draw from the experience of others, thereby learning to succeed faster.

iii. Application of skills in the workplace: Skills are important to be effective, but you also need knowledge of everything that your job entails. You need to learn how to apply the skills you have to your own and the organisation's benefit and this is where tacit knowledge sharing comes in.

iv. Building sales force confidence in the workplace: Tacit knowledge sharing will also build confidence in the sales force members faster, as well as maintaining confidence levels for the team. This will boil down to sales success if implemented correctly.

v. Improving team cohesion: Tacit knowledge sharing will contribute to improved team cohesion. Sales force members will feel as if they are a bunch of experts as they are helpful towards one another's successes.

vi. Achievement of business goals and objectives: Tacit knowledge sharing is essential for achieving business goals and objectives. Sales force members therefore need to work smarter and have to get knowledge from wherever they can to assist them in their daily operations.

vii. Capitalising on the knowledge and success of other team members: Capitalising on other members' successes in the field as well as limiting the repetition of mistakes made are some of the successes from tacit knowledge sharing and drawing from the experience and knowledge of others would assist in managing oneself and the people around one. Mistakes would also not be replicated in the field and new opportunities would be generated as two minds are better than one. Tacit knowledge will assist employees to capitalise on the success of other team members as knowledge is power and learning from other sales force members' successes and failures would facilitate faster development for every member. Even experienced members could learn from the successes and failures of new members.

viii. Enhanced employee productivity and effectiveness: Tacit knowledge sharing would enhance the productivity as well as speed up the time it takes to achieve your objectives as you learn why other people are successful and what they do different from you. Tacit knowledge sharing will lead to improved effectiveness and it will fast-track the performance of a tacit knowledge empty person.

ix. Fast tracking the performance of employees: As stated above, tacit knowledge sharing would fast track the performance and productivity of the sales force members and the performance of employees, especially new employees would be improved faster.

6.3.11 Cultural issue to take into account

Participants felt that it was very important for different cultures to share their tacit knowledge, as everyone has something to offer in terms of knowledge. Participants had different views and some innovative ideas of what to do with tacit knowledge sharing in cultural diverse organisation.

Some of the cultural issues to take into account when planning and executing a tacit knowledge sharing strategy include:

i. Cultural intelligence: Cultural intelligence is at the forefront of success for sales force members and therefore learning from other members in a diverse group could only have a positive impact on their own productivity and efficiency in the field. It is important to note that different cultures do things differently and it would therefore be of value to learn from everyone.

ii. Accommodate different cultures: Organisations need to accommodate different cultures as our country is a culturally diverse nation and workforce. A lot can be learned from the ways different cultures go about and how to handle different customers. Culture needs to be taken into account when planning and executing strategies and it is so important in our multi-cultural society to take everything into consideration when setting goals.

iii. Improvement of cultural awareness: In today's selling society, people sell to different cultures therefore cultural awareness and becoming aware of cultures and sub-cultures through tacit knowledge sharing will make individuals more sensitive to tailor their selling messages for different cultures.

iv. Sensitivity towards cultural diversity: It is important to always be sensitive to cultural diversity and motivate all employees to share knowledge as we can learn from everybody. South Africa is a country with a number of diverse cultures and it would be very important to better understand each other's culture and then find a way to openly share knowledge and ideas. This would benefit every sales force member as understanding people

better is needed in order to get away from preconceptions and stereotypes.

v. Lack of procedures to deal with cultural issues: Culture might still be a sensitive issue to deal with for organisations so it is important not to exclude anyone from sharing knowledge or participating in tacit knowledge sharing.

vi. What is needed to promote cultural intelligence in organisations: Courses where you address cultural differences and preferences so that the common understanding of different cultures can improve is needed in organisations. Even an awareness programme on cultural intelligence will sensitise people to be more open to their team members' cultural preferences and behaviours along cultural lines. Create an internal society where it is ok to discuss different cultures without being prejudice thereby creating a trusting environment as this will be pivotal to success. A good idea will be to link knowledge sharing to some form of motivation and/or rewards as this would greatly assist in promoting sharing amongst different cultures. Trust as well as enough time to share knowledge and the correct environment would assist in creating a sharing culture, irrespective of the national culture of members.

vii. Team meetings to promote cultural awareness: You can make use of tacit knowledge sharing sessions to share different cultural views so that people can take note of underlying racial preferences in order to use this to your advantage when selling. A trusting environment free of prejudice and intolerance would be needed for effective sharing in the presence of cultural preferences. Teams need to formally address the cultural barriers in order to create better cultural awareness.

6.3.12 Culture-related outcomes and benefits of successful tacit knowledge sharing

Participants expressed the opinion that it was possible to deal more efficiently with a multi-cultural workforce when managing tacit knowledge sharing and some of the suggestions in 5.6.11 were shared.

The culture-related outcomes and benefits of successful tacit knowledge sharing identified by participants were:

i. Better understanding of different cultures: Teams can learn from different cultures and then apply the new knowledge to our customers and daily jobs.

ii. Better manage diverse customer base: In the marketplace, the customers are culturally diverse, so every member could learn from other groups on how to better manage their diverse customers. There are values in sales teams openly sharing how different cultures would respond to different ways of selling. Training people on the fact that certain cultures will choose to be handled in a certain way and to handle problems in a certain way as this would be highly valuable for any team to master.

iii. Open sharing of tacit knowledge contributes to team cohesion in a multi-cultural workforce: If you have a corporate culture of sharing tacit knowledge in place, it would be much easier to address cultural differences and a multi-cultural workforce. First create a knowledge sharing culture in the organisation and then look to address any cultural issue.

iv. The creation of a sharing culture will alleviate other barriers: Be clear on why sales force members need to share then the issues surrounding the management of a multi-cultural workforce and tacit knowledge sharing would be alleviated. If you have already created a trusting environment where people openly share business knowledge, the sharing of cultural preferences and insights would be easier.

v. Advantage of tacit knowledge sharing to managing different cultures: Tacit knowledge sharing can be a valuable tool to use to learn from different cultures in your team in order to make you sales force more effective when selling to different cultures. We live in a culturally diverse country; therefore the customers will also be culturally diverse and sales force members need to learn from their own team members how to handle customers from different cultures better. It would therefore be of value for sale teams to openly share different cultural ideas and perspectives.

6.4 SUMMARY

In this chapter the qualitative research that had been conducted was reported on. It seems that tacit knowledge sharing is not a primary objective for any of the organisations even though there are many positives in terms of workforce productivity and effectiveness improvements. It also became clear that participants viewed tacit knowledge sharing as a source of future sustainable competitive advantage. Most participants expressed the opinion that more initiatives from management's side were needed to facilitate tacit knowledge sharing and create a suitable, goal-orientated environment to share. Tacit knowledge sharing is very important for improved productivity and efficiency of the sales force members, as well as for fast tracking the objectives set for the sales force.

This chapter presented a detailed description of the findings of and conclusions drawn from the qualitative investigation. It focused on the data gathering as well as the data analysis and the importance of the study was also highlighted. The data obtained were discussed and interpreted in relation to the research aim of the study. The next chapter will focus on the findings, conclusions and recommendations as well as present a tailor-made model to manage tacit knowledge sharing for sales force members in the pharmaceutical industry.

CHAPTER7

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

The aim of the study was focused on developing a management model to optimise tacit knowledge sharing as a possible avenue for increasing employee productivity in the South African pharmaceutical industry This study critically viewed the possible value of tacit knowledge sharing, challenges experienced by sales force members and management in South African pharmaceutical organisation and the views of managers in pharmaceutical companies about its contribution to the improvement of employee productivity for sustained competiveness in the global market.

In order to achieve these objectives, a literature review was conducted with the aim of exploring the existing body of knowledge with regard to tacit knowledge sharing and employee productivity. The literature review, therefore, provided the foundations for the research. The literature review was followed by a sequential mixed-methods empirical investigation. The quantitative investigation involved a sample of sales force members and managers to establish the variables that contribute to the enablement or disablement of tacit knowledge sharing, and its potential to contribute to employee productivity and efficiency. The purpose of the qualitative investigation was to follow up on the data emerging from the quantitative investigation and to obtain clarification and a deeper understanding of the issues at stake. This was a valuable exercise. The face-to-face contact with participants not only elicited the participants' perceptions of and insights into the phenomenon under study, but also provided the researcher with

data that may be used to extend tacit knowledge sharing in the pharmaceutical industry in South Africa. This chapter deals with findings that were derived from the data gathered during this study and affords conclusions and recommendations in view of providing a substantial model for sustained tacit knowledge sharing.

The various phases of investigation were aimed at answering the overarching research question of the study: *How can South African pharmaceutical companies improve tacit knowledge sharing to ensure a competitive advantage?* In doing so, the following objectives were envisaged in Chapter 1:

- To conceptualise tacit knowledge by identifying constructs underpinning tacit knowledge.
- To view the influence of tacit knowledge sharing on employee productivity.
- To critically explore tacit knowledge sharing within the framework of knowledge management in a company.
- To acknowledge any possible influence that cultural diversity might have on tacit knowledge sharing in the South African pharmaceutical industry.
- To identify challenges experienced by the sales force members and management in context of the South African pharmaceutical industry.
- To explore the views of sales force members and managers in the pharmaceutical industry on the optimisation of tacit knowledge sharing.
- To conduct an analysis of managing tacit knowledge sharing in the pharmaceutical industry in view of constructing a plan for tacit knowledge sharing in the industry.

7.2 A MODEL FOR OPTIMISING TACIT KNOWLEGDE SHARING

The literature reviews in Chapters 2 and 3 yielded a draft model for the sharing of tacit knowledge for sales force members in the South African pharmaceutical industry. The data emerging from Chapters 5 and 6 through the quantitative and qualitative analyses expanded the model. The final synthesised model (Fig 7.1)

presents the findings ensuing from the study to serve as directive for the optimisation of tacit knowledge sharing. By optimising knowledge sharing various elements (table 7.1) emerged from the study which will hence be discussed and together they culminated in a comprehensive management model (figure 7.1) to satisfy the particular tacit knowledge sharing needs of the South African pharmaceutical industry in order to remain competitive in the global market.

7.2.1 Elements in effective tacit knowledge sharing

The value of successful tacit knowledge sharing was identified during the study, for example, enhanced workforce efficiency, increased competitive advantage, enhanced capabilities of the sales force, and a better prepared and more effective sales force (*cf.* 3.9 and 5.4.10). As the true value of knowledge lies in using and sharing it, generating value from sales force members as knowledge assets involves sharing of tacit knowledge among employees. Deploying tacit knowledge will add value and enhance the capabilities of the entire sales force, as they learn how to apply newly acquired knowledge under the supervision of managers, which will result in a sustainable competitive advantage for the company (*cf.* 3.9 and 5.4.10).

The research conducted for this study revealed that successful tacit knowledge sharing is particularly valuable in terms of increasing employee productivity (*cf.* 6.3.10) and gaining a competitive advantage, because the sales force applies the new knowledge and skills in the workplace. The sharing among team members and the application of new knowledge and skills in the workplace lead to building sales force confidence, improving team cohesion, achievement of business goals and objectives, capitalising on the knowledge and success of other team members, enhanced employee productivity and effectiveness, and fast tracking the performance of employees (*cf.* 6.3.10).

7.2.1.1 Objectives of teams

The main objective of sales force teams in the pharmaceutical industry is to achieve financial targets, increase competitiveness and gain a competitive advantage (*cf*. 2.5). These objectives probably may become more achievable through effective tacit knowledge sharing as this will foster shared experiences and the ability of team members to learn from each other (*cf.* 5.4.1). Although the pharmaceutical industry comprises diverse cultural, gender, language and age groups, the sales force members of the companies included seem to share the same objectives and uniformly agreed that tacit knowledge sharing will contribute to improved productivity (*cf*. 5.4.1).

7.2.1.2 Channels used to gain tacit knowledge

In endeavours to gain a competitive advantage, companies need to leverage the knowledge of their intellectual capital as well as coordinate the knowledge and experience available in the company (*cf.* 2.5). In doing so, there needs to be a channel to stream the knowledge and experience. It is, however, necessary to first identify the vital information required, before it can be extrapolated and, together with the existing intellectual capital and experience be combined to generate new knowledge so that the company can apply the new knowledge. The application of the new knowledge needs to be shared, as well as acted upon, to be of value (*cf.* 2.5). Appropriate channels (also referred to as sharing instruments) should then be explored and adapted to address the company's needs, such as training courses, brainstorming sessions and face to face contact. It is therefore apparent that knowledge sharing instruments need to be used frequently so that these instruments can address the needs and objectives of the particular contingency of sales force members in order to benefit from them (*cf.* 5.4.2).

7.2.1.3 Knowledge targeting

As indicated in the subsection above, it is vital to target the tacit knowledge required and understand what possible avenues can be capitalised on to achieve the required outcomes and gain that competitive advantage. The productive worker uses skills, tacit knowledge and explicit knowledge to get the work done and be productive (*cf.* 2.5), but tacit knowledge is hard to transfer and this is the area in which the possibilities for a competitive advantage is locked up. Because tacit knowledge is so difficult to share and transfer, companies involved have not optimally become engaged in this area, resulting in under-capitalising on the advantages of tacit knowledge sharing. Tacit knowledge sharing can be very capacitating as the sales force members can then learn from one another (*cf.* 6.3.3). Research has shown that tacit knowledge creates power and increases worker productivity if it is shared and acted upon (*cf.* 2.5). Tacit knowledge sources such as personal experiences, mentors and coaches and formal training courses are valuable and confirm that tacit knowledge forms the foundations of effective performance (*cf.* 5.4.3). Having targeted the required knowledge, the company has to equip the sales force with the required knowledge to enable them to manage their own activities as well as their customers better (*cf*. 5.4.3).

7.2.1.4 Tacit knowledge creation

Tacit knowledge is created through a number of cycles and it means that it is developed through successful experience over a period of time. The SECI model is a good example of such cycles and demonstrates that it is maintained through sharing (*cf.* 2.5), indicating five steps to facilitate tacit knowledge sharing. During these five steps, the creation of time and space to stimulate and facilitate tacit knowledge sharing is highlighted as effective tacit knowledge sharing needs to happen in a time and space that will be conducive to interaction between sales force members. After new concepts have been created, the management needs to identify where the application of the new knowledge can be assessed. It is,

however, necessary that sufficient time must be allowed to enable employees to evaluate whether this new knowledge is in fact helpful before it can be documented for other team members to capitalise on (*cf.* 3.9).

Tacit knowledge must be shared in order to become valuable and this may be problematic if enough opportunities for the sharing of tacit knowledge are not created by the companies (*cf.* 5.4.4). During such knowledge sharing opportunities, exposure to the source of the knowledge could be valuable if it is possible, because then staff members can interrogate that knowledge and its applicability to current practices and to create new knowledge. In the South African pharmaceutical companies a lot of work still needs to be done in order to effectively extrapolate tacit knowledge in companies and to create platforms to promote the sharing of tacit knowledge, be it by socialisation or by creating enabling environments (*cf.* 6.3.4).

7.2.1.5 Socialisation through teamwork and creative routines

Human interaction is vitally important for tacit knowledge sharing. Socialisation forms an important foundation of tacit knowledge sharing and company management needs to create a supportive environment and space to optimally promote the sharing of knowledge. Certain procedures or creative routines usually develop during these sessions, such as allocating specific time for sharing, and clear objectives. Social interaction provides a safe space where positive behaviour is strengthened, negative behaviour is broken down and new, desired behaviour is established (*cf*. 2.5). Strengthening teamwork is another advantage of socialisation as individuals share knowledge and the other members of the team can act on what they have heard. Teams will probably then also share how they have applied this new knowledge and compare their experiences in view of improving their actions in future (*cf*. 2.5).

Socialisation does not necessarily happen by chance and management should take cognisance of this imperative in order to plan socialisation activities better (*cf.* 3.9). The source of tacit knowledge is, more often than not, other people from whose experience the sales force members can learn. It is therefore critically important that as much as possible exposure is provided for members of staff to individuals that possess the tacit knowledge to put them in a position to acquire new knowledge (*cf.* 5.4.5) they may need.

7.2.1.6 Knowledge management

The management of tacit knowledge is important as this will enhance the performance and competitiveness of employees, as well as companies. The capturing, documentation and the dissemination of knowledge within the company should be well managed. Managers further need to facilitate the establishment of a knowledge sharing culture and guide new employees as to where and when their newly acquired knowledge is to be applied and acted upon (*cf*. 2.5), such as applying newly acquired knowledge for the first time under supervision of a manager. Management is responsible for creating a shared space to promote emerging relationships, and encourage and support the exchange of tacit knowledge, and for creating a shared language for the team and role-model sharing behaviour. The most important responsibility of company management is creating and providing an enabling environment for sharing to take place (*cf*. 3.9).

Management needs to identify what knowledge should be shared to achieve daily goals and then look at the possible sources that might possess this knowledge and possible ways to unearth the knowledge (*cf.* 6.3.6).The sharing of tacit knowledge is not universally encouraged and/or rewarded in companies, but by making it part of the company's incentive or commission structure could encourage the practice (*cf.* 5.4.6). A practical application is that staff will qualify to be rewarded only if they attend all or a certain number of sessions.

7.2.1.7 Capturing, recording and codifying tacit knowledge

Tacit knowledge can be captured by interviewing experts, learning by being told, by learning through observation or by capturing it in a written form. Codification takes place when recorded knowledge is used in the field by new members and testing it under supervision of managers (*cf*. 2.5). ICT could play a much greater role in companies when it comes to the recording of tacit knowledge (*cf*. 5.4.7).The objective of using ICT systems to capture, record and codify this knowledge when identified would be to reduce the time spent on information access and management (*cf.* 3.9).

The suggestions for capturing, recording and codifying tacit knowledge include team meetings such as quarterly cycle meetings and monthly teleconferences, as well as best practice meetings where successes are shared among team members. Companies can also make use of social media and the internet by using a talent-growth website where the staff's professional development needs can be addressed. In-house tools where sales force members can follow one another are useful for members to post some of their success stories from the field. A telephone hotline for sharing tacit knowledge can be useful, but feedback on where the knowledge will be used and how it contributes to one's own success, is necessary for it to be effective (*cf*. 6.3.7). Planned meetings with agendas and minutes are simple, yet effective ways of gaining information and of monitoring the application value it may have. The minutes of the meetings can be revisited for future sharing and rewarding purposes (*cf.* 6.3.7).

7.2.1.8 Enablers of tacit knowledge sharing

A great number of enabling factors for tacit knowledge sharing were identified during the study. Groups in this study, regardless of age, race, tenure and

language, uniformly agreed on the tacit knowledge sharing enablers (*cf*. 5.4.8). The primary enablers that were identified are:

- Establishing a shared vision: To share knowledge in the company and setting clear goals will enhance the capacity of the sales force members as they will then know why knowledge has to be shared (*cf.* 3.9).

- Enabling structures: It will also be of use for the management of companies to revisit the structures in their companies to ensure that they support sharing, as structure will facilitate a knowledge sharing strategy whereby all involved will know what is expected of them (*cf*. 5.4.8).

- Management also needs to create more socialisation opportunities for the sales force members, thus making tacit knowledge sharing part of the business strategy and providing clear direction of where the team is heading, which will further stimulate the sales force members' striving for efficiency (*cf.* 3.9). Managers can also manage the socialisation part of sharing better by providing more opportunities for team members to interact, as well as by using specific people to stimulate sharing – called knowledge activists (*cf.* 3.9).

- Companies should create the right environment for stimulating socialisation and thereby create the context for sharing tacit knowledge. Managers should also communicate the benefits of knowledge sharing practices and clearly identify employees in need of knowledge sharing, as well as what knowledge they require. They should create time and space for, and the expectation among team members to come together and share experiences (*cf*. 3.9). It is important to record and document the shared knowledge and there should be adequate technological support for this.

- Aligning team goals with the knowledge sharing strategy will be important so that a connection between sharing tacit knowledge and practical

business goals can be made in order to overcome cultural barriers (*cf.* 3.9 and 5.4.8).

- Managers need to stress knowledge sharing from the start for new employees, as well as build knowledge sharing into routine appraisal such as making it part of the requirements for qualifying for incentives (*cf.* 3.9).

- Trust between members is required for optimal sharing and for this to happen the correct environment to share must be created where people feel comfortable and safe to share knowledge (*cf.* 6.3.8).

- Motivation and tangible benefits in the form of monetary incentives will promote tacit knowledge sharing, but one can also use incentives other than money to reward people for sharing knowledge, for example by giving them the task to coach or mentor new sales force members (*cf*. 6.3.8 and 5.4.8).

- Enough time must be allocated to share knowledge properly and make the employees feel valued. Clear communication on the value of sharing is required so that people understand why they have to share knowledge (*cf.* 6.3.8).

- Sales force members also need to understand their role and responsibility regarding tacit knowledge sharing as this will bring clarity which will alleviate any issues that belonging to different cultures might create. Managers modelling sharing behaviour would create a trusting environment and the correct culture for tacit knowledge sharing (*cf*. 3.9 and 6.3.8).

- Creating a culture of coaching and mentoring would be necessary for stimulating tacit knowledge sharing (*cf*. 6.3.8).

7.2.1.9 Barriers to effective tacit knowledge sharing

In a company, there may also be barriers to effective tacit knowledge sharing, such as language, culture and the willingness to share (*cf.* 2.5), and these barriers were uniformly experienced by groups regardless of their age, language, tenure and race (*cf.* 5.4.9). These barriers can be divided into three categories, namely individual, company and technological barriers (*cf.* 3.9).

- Individual tacit knowledge sharing barriers include a lack of time to share and the fear that sharing may reduce job security. Poor communication skills, lack of trust and differences in age, gender, educational level, language, and cultural backgrounds can also manifest as individual knowledge sharing barriers (*cf*. 3.9 and 6.3.9).

- Organisational tacit knowledge sharing barriers include a lack of a social network or space to share knowledge, lack of integration between strategy and goals and a lack of resources. A lack of leadership and managerial direction, as well as management not role-modelling the sharing will also hamper effective tacit knowledge sharing. A high staff turnover can also have negative implications for a company as continuity will suffer (*cf.* 3.9 and 6.3.9).

- Technologically-wise tacit knowledge sharing may suffer due to lack of technical support, integration of IT systems and processes, as well as because of the creation of unrealistic expectations of what technology can do for the sharing of information and knowledge. A lack of familiarity with IT systems may also hamper such processes (*cf*. 3.9 and 6.3.9).

New employees are more willing to share their knowledge, but this willingness decreases the longer they stay in the company (*cf*. 5.4.9). Sales force members who have been in a company for a longer time hold on to their knowledge as it

makes them more secure knowing that they know more than others, as they see their knowledge as personal equity rather than team equity. This is a significant barrier in the way of effective sharing and managers will need to be clear to sales force members as to why and how they have to share knowledge (*cf.* 5.4.9).

7.2.1.10 Accounting for diversity

Different groups should be afforded the opportunity to share their tacit knowledge as everyone has something to offer in terms of knowledge. There are many matters to take into account when planning and executing a tacit knowledge sharing strategy. 'Cultural intelligence', where one learns from other members in a diverse group, could only have a positive impact on productivity and efficiency in the field (*cf*. 6.3.11). Accommodating different groups and considering everyone when setting goals will improve the awareness of diversity and sensitise individuals more to tailor their selling messages towards the different groups and their needs and habits. Sales force members should realise that understanding people better is a necessity for counteracting prejudices and stereotyping (*cf.* 6.3.11). It will therefore be very valuable to include a diverse group of employees when sharing knowledge, so that others can learn from them. As sales force members particularly have to deal with a diverse group of customers, they need to know how to approach them to reach their targets. Team meetings can contribute to a common understanding of particular selling and marketing strategies by equipping the members with the required knowledge and awareness to deal with the different groups according to their needs and accepted practices (*cf.* 6.3.11).

The outcomes and cultural benefits of successful tacit knowledge sharing include benefits such as a better understanding of diverse groups whereby sales force members will be enabled to manage a diverse customer base better (*cf.* 6.3.12). If a company has a corporate culture of sharing tacit knowledge in place, it would be much easier to address cultural differences and manage a multi-cultural

workforce. The creation of a sharing culture will alleviate other issues regarding dealing with a multi-cultural workforce. Tacit knowledge sharing can be a valuable tool to learn from different cultures in a team in order to make a sales force more effective when selling to customers from different cultures (*cf*. 6.3.12).

Table 7.1 below is a visual model of the discussion above (7.2.1) which has provided an extensive exposition of what needs to be taken into consideration when a pharmaceutical company needs to manage tacit knowledge sharing.

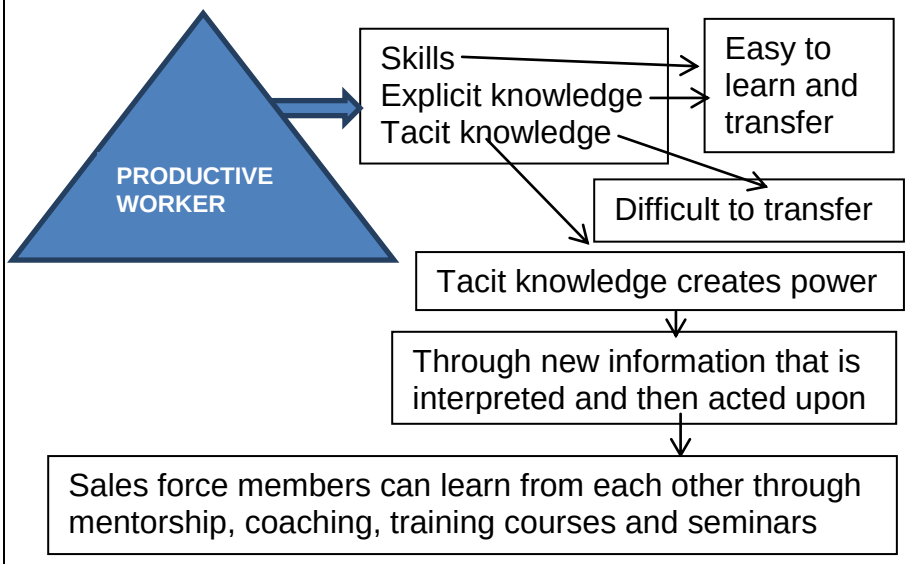
Table 7.1: Elements of effective tacit knowledge sharing in the SA pharmaceutical industry

Value of effective tacit knowledge sharing:

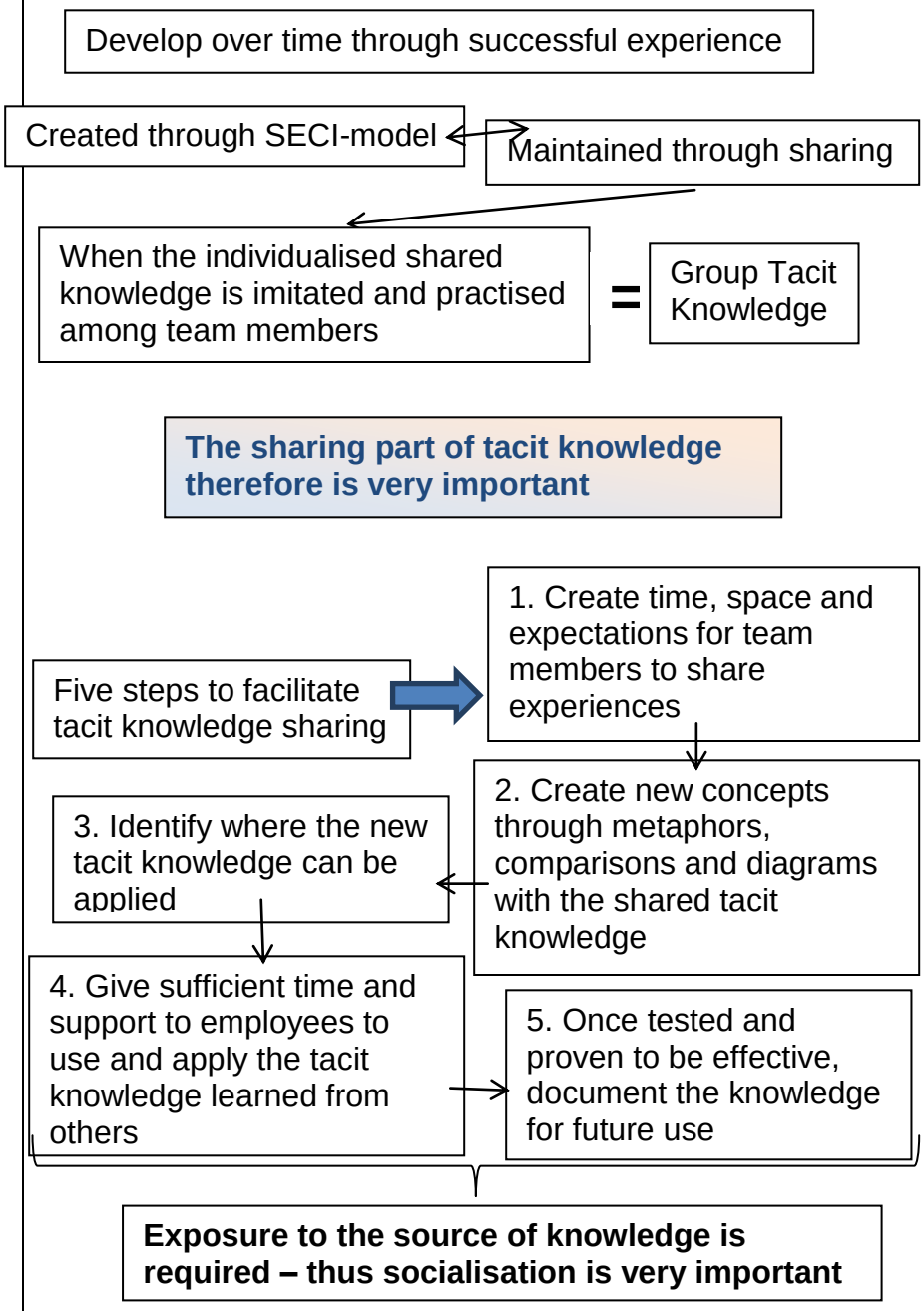
- Enhanced workforce efficiency
- Better application of skills in the workplace
- Increased competitive advantage
- Enhanced capabilities of sales force
- A better and more confident sales force
- Sales force better prepared and more effective
- Increased employee productivity
- Opportunities to capitalise on the knowledge and success of other team members thereby fast-tracking performance of inexperienced employees
- Improved team cohesion
- Facilitates clarity on collective goals and objectives
- Sustainable competitive advantage for entire organisation

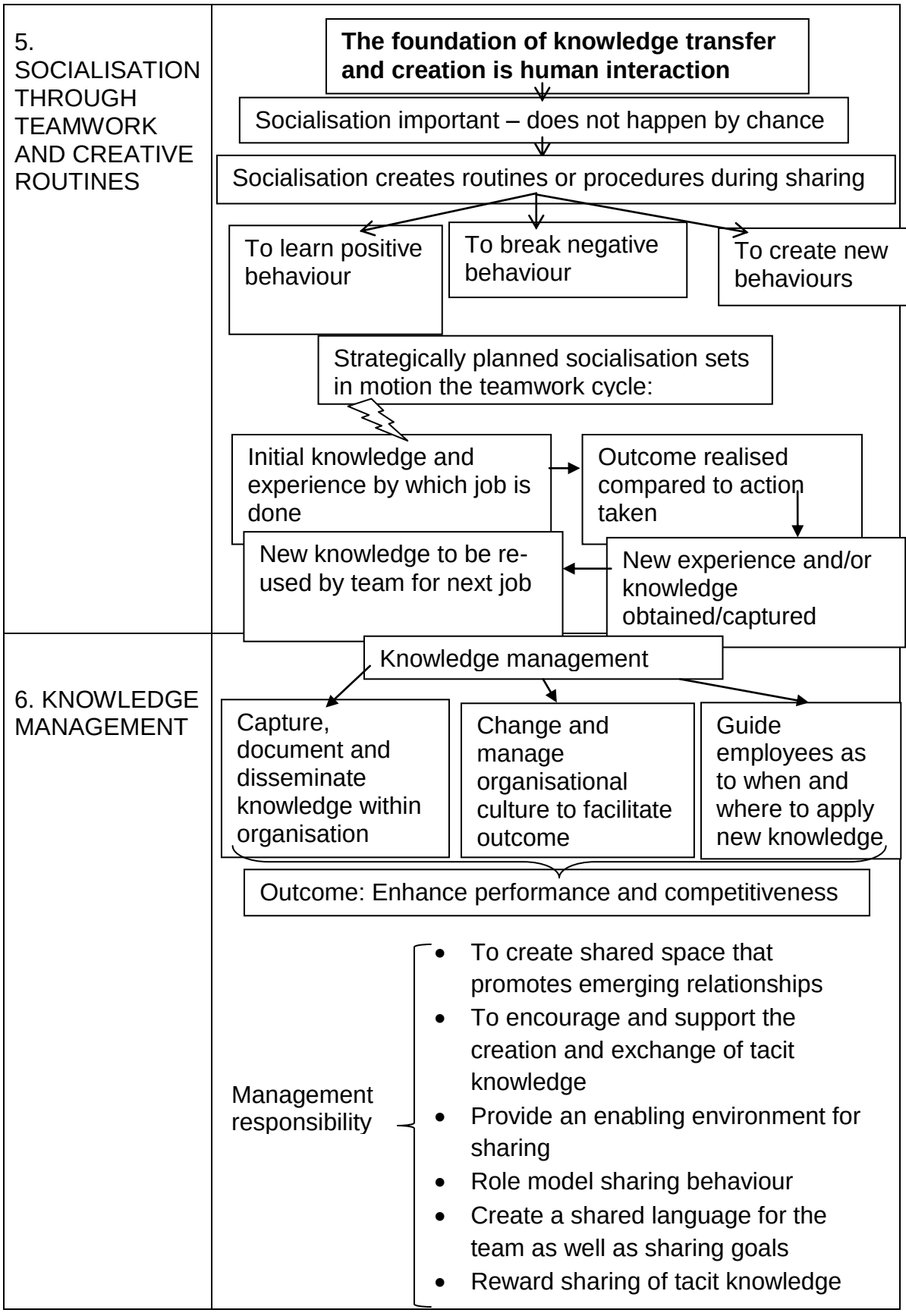
1. **Objective of Teams in the Pharmaceutical Industry:**

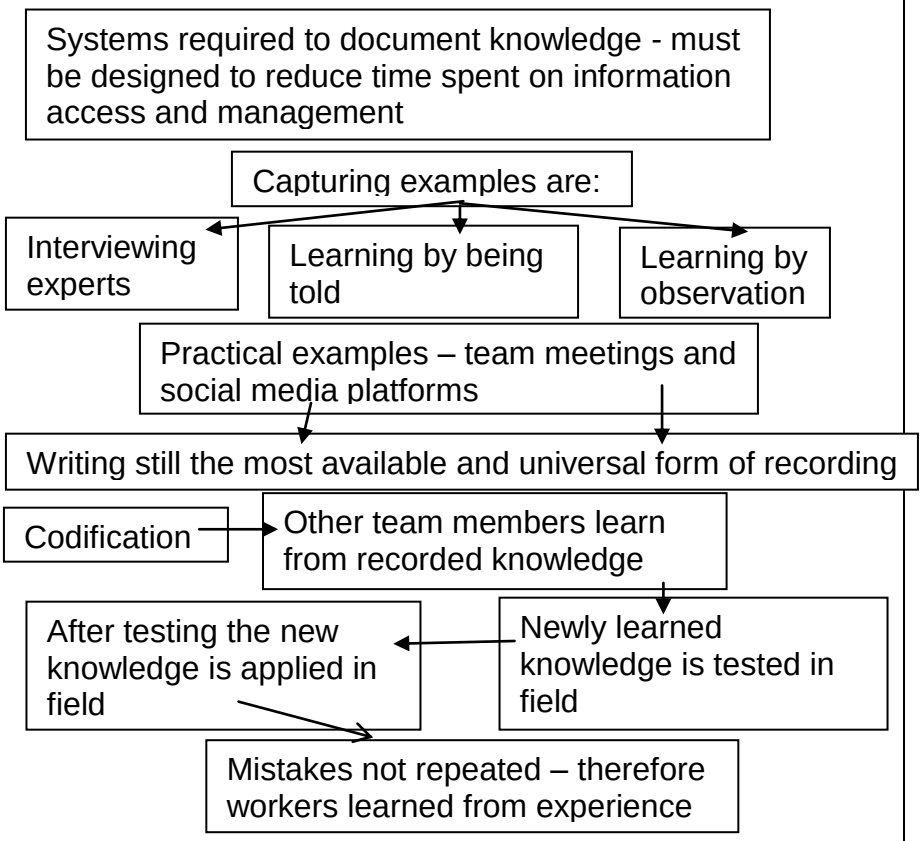
Achieve targets, increase competitiveness + gain competitive advantage.

2. CHANNELS USED TO GAIN TACIT KNOWLEDGE	Leveraging the knowledge of intellectual capital Identify and extrapolate knowledge gaps, then coordinate knowledge and experience to fill gaps Act appropriately on the new knowledge Many channels (called knowledge-sharing instruments) through which knowledge can be leveraged such as training courses, brainstorming sessions, face-to-face contact
3. KNOWLEDGE TARGETING	

4. TACIT KNOWLEDGE CREATION




5. SOCIALISATION THROUGH TEAMWORK AND CREATIVE ROUTINES
The foundation of knowledge transfer and creation is human interaction
Socialisation important – does not happen by chance
Socialisation creates routines or procedures during sharing
To learn positive behaviour
To break negative behaviour
To create new behaviours
Strategically planned socialisation sets in motion the teamwork cycle:
Initial knowledge and experience by which job is done
Outcome realised compared to action taken
New knowledge to be re-used by team for next job
New experience and/or knowledge obtained/captured
6. KNOWLEDGE MANAGEMENT
Knowledge management
Capture, document and disseminate knowledge within organisation
Change and manage organisational culture to facilitate outcome
Guide employees as to when and where to apply new knowledge
Outcome: Enhance performance and competitiveness
Management responsibility
To create shared space that promotes emerging relationships
To encourage and support the creation and exchange of tacit knowledge
Provide an enabling environment for sharing
Role model sharing behaviour
Create a shared language for the team as well as sharing goals
Reward sharing of tacit knowledge

7. CAPTURING, RECORDING AND CODIFYING TACIT KNOWLEDGE	 Suggestions for capturing, recording and codifying knowledge • Make use of social media and internet such as talent-growth website • In-house tools such as intranet and telephone hotline • Planned meetings with agendas and minutes • Supply adequate feedback in written form after knowledge sharing meetings

8. ENABLERS OF TACIT KNOWLEDGE SHARING	Enablers for tacit knowledge sharing	• Make tacit knowledge sharing part of business strategy • Establish a vision to share knowledge in the organisation • Clear direction needed for where team is heading • Manage the socialisation part of sharing • Stimulate sharing by knowledge activists • Create the right context for sharing tacit knowledge • Create the right environment for stimulating socialisation and sharing • Record and document the shared knowledge • Align goals with knowledge sharing strategy • Managers should communicate the benefits of knowledge sharing practices • Clearly identify employees in need of knowledge sharing as well as what knowledge they require • Trust among members is required for optimal sharing • Correct environment to share must be created where people feel comfortable and safe to share knowledge

	Enablers for tacit knowledge sharing	• Create time, space and expectations for team members to come together and share experiences • Adequate technological support for knowledge sharing • Making a connection between sharing tacit knowledge and practical business goals can overcome cultural barriers • Stress knowledge sharing from the start for new employees • Build knowledge sharing into routine appraisal • Motivation and tangible benefits in the form of incentives will enable tacit knowledge sharing • Enough time must be allocated to properly share knowledge and make the employees feel valued • Clear communication on value of sharing so that people understand why they have to share knowledge • Cultural issues alleviated through understanding of roles and responsibility regarding tacit knowledge sharing • Managers modelling sharing behaviour create a trusting environment and correct culture for tacit knowledge sharing

9. BARRIERS TO EFFECTIVE TACIT KNOWLEDGE SHARING

Tacit knowledge sharing barriers divided in three categories:

1. Individual
- Lack of time to share
- Fear that sharing may reduce job security
- Difference in age, gender, educational level, language, cultural background
- Poor communication skills

2. Organisational
- Lack of a social network or space to share knowledge
- Lack of integration between strategy and goals
- Lack of leadership and managerial direction
- Lack of resources
- Management not role-modelling sharing
- Lack of rewards and recognition
- High staff turnover

3. Technological
- Lack of technical support
- Lack of integration of IT systems and processes
- Unrealistic expectation regarding what technology can do
- Miscommunication between needs and IT systems and processes
- Lack of familiarity with IT systems

Negative effect of barriers are further inflated by high staff turnover of the pharmaceutical sales force

Willingness to share knowledge decreases as tenure in an organisation increases. Sales force members not clear on why they have to share and then see their knowledge as personal equity rather than team equity

10. ACCOUNTING FOR DIVERSITY	Cultural issues to remember during tacit knowledge sharing	• Cultural sensitivity needs to be recognised • Lack of procedures to deal with cultural issues problematic • Use team meetings to directly address differences in cultures • Get away from stereotypes by trying to understand people better • Every culture has something to share and contribute • Learning from other cultures increases cultural intelligence
	Outcomes of tacit knowledge sharing:	• Better understanding of different cultures • Better management of culturally diverse customers • Culturally intelligent and more effective sales force

7.2.2 Synthesized management model

The summary of the main dimensions of tacit knowledge sharing above, delivered strong pointers as to how tacit knowledge sharing could be optimised to deliver the expected productivity in the pharmaceutical industry. In translating these pointers into a synthesized management model for tacit knowledge sharing, the following figure represents the various components.

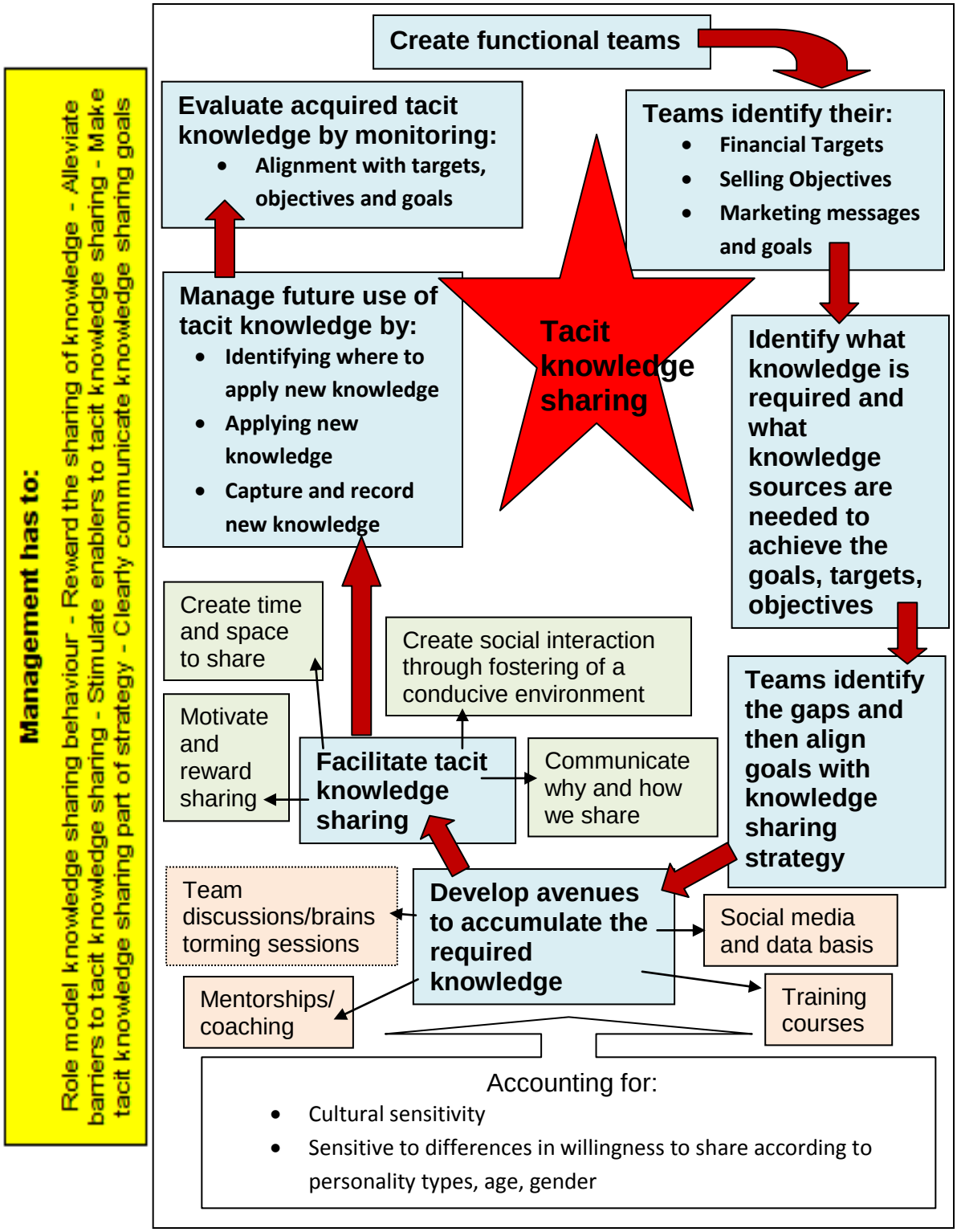


Figure 7.1 **Management model for the optimisation of tacit knowledge sharing**

The above figure is presented in a sequential mode to simplify the understanding of the various strategic actions and processes required to optimise tacit knowledge sharing. However, this should be an on-going process and depending on the goals, gaps and level of functioning within the various teams, some of the actions can take place simultaneously.

The first step is to **identify and/or create functional teams** based on similar products, services and customer groups targeted. The functional teams then need to **identify their financial targets, selling objectives, marketing messages and goals.** Based on the targets, objectives and goals, the teams must then **identify what knowledge will be required** in order to achieve success in the marketplace. At this stage, the teams also **identify individuals and teams that possess the knowledge** they require. Therefore, the possible sources of knowledge are identified here. Teams now **gain clarity on what the knowledge gaps are** and this will be incorporated into a knowledge sharing strategy with clear tasks and responsibilities for every team member. The **avenues that will be utilised for knowledge sharing** are also now identified; there are numerous examples, such as team discussions, brainstorming sessions, mentorship programs, coaching and training courses. Social media and data sources required will also be identified and developed during this stage.

The next step is to **facilitate the process of tacit knowledge sharing** by creating the optimal time and space for knowledge sharing to take place. Social interaction and face-to-face contact are required, and this may be achieved through fostering an environment conducive of sharing. The environment is not only a physical space but also a space where team members feel safe and secure to share knowledge. It must be communicated to team members that no prejudice or animosity will be tolerated towards each other during these sharing sessions and that everyone's opinion and input will be valued. It is further important for team members to be clear on why they have to share as well as

how they need to share tacit knowledge, and this communication should come from senior sales force members as well as management modelling the sharing behaviour. The new tacit knowledge generated through these sharing sessions should be captured and recorded appropriately throughout the sessions and this can be done in various ways such as having an appropriated agenda during the meeting and then capturing this agenda on an electronic data base for future retrieval.

The next stage will be to **manage the future use of the new tacit knowledge** by identifying where the new knowledge can be useful, and then to apply the new knowledge under supervision of more experienced team members as well as management. After applying the new tacit knowledge in the workplace, the **tacit knowledge needs to be evaluated** by monitoring the alignment of the knowledge with targets, objectives and goals and measuring how the new knowledge assists team members to be more productive and efficient in their jobs. During the whole sharing process team members and management need to account for and be sensitive towards cultural differences, as well as differences in the willingness to share between different age group and gender groups. Personalities also differ and management should find ways of motivating all employees to participate in the sharing sessions.

Management and senior sales force members have added responsibilities during the whole sharing process, such as motivating team members to share and communicating clearly what the rewards for sharing will be. Managers further have to take into account all the possible barriers that might have a negative effect on sharing and find ways to alleviate these barriers. Managers also should stimulate the knowledge sharing enablers and make sure that the time and space created for sharing are supportive of these enablers. Managers should make sure that tacit knowledge sharing forms part of the team strategy and therefore align sharing with the goals of the teams. Lastly and probably the most important

is that management needs to understand their role in sharing as they need to be the advocates modelling sharing behaviour in the workplace.

7.3 VERIFICATION OF THE FINAL MODEL

The above synthesised model (Fig 7.1) for optimising tacit knowledge sharing was then presented to the same five managers that participated in the qualitative interviews. This was done in order to get their comments and input as to the validity and practical application of the model in their workplace as well as to verify that this study engaged in delivering an original model for optimising a neglected practice in business industries.

The five managers (participants) acknowledged the importance of the synthesised model for optimising tacit knowledge sharing in terms of providing direction for this practice in their respective organisations. One manager in particular stated that this model was comprehensive in the required information for understanding tacit knowledge sharing and would provide the necessary guidance and direction for initiating sharing for our sales teams.

The managers generally agreed that a model of this sort was required to guide members into the right direction when initiating tacit knowledge sharing initiatives. Managers one and five, in particular, found the acknowledgement of the barriers and enablers for optimising tacit knowledge sharing most helpful and managers two, three and four commended the contribution that the section about capturing, recording and codifying tacit knowledge would make to their tacit knowledge sharing strategies. Manager three stated that his department was closely with the information technology (IT) department in order to tailor computer applications that would assist in capturing and recording tacit knowledge in their sales teams better.

Most managers felt that the model presented to them would greatly assist in compiling their own tacit knowledge sharing strategy as well as fast-track the achievement of tacit knowledge sharing objectives when implementing their strategies in their sales teams. Manager two aptly stated that "…even though I realised the importance of tacit knowledge sharing for my sales team, I never had the time or the relevant knowledge to construct a suitable sharing strategy. This model gives practical guidelines as to how to initiate and implement such a sharing strategy".

7.4 CONCLUSIONS

The overriding aim of the study was to find ways of optimising tacit knowledge sharing for the sales force of the pharmaceutical industry in South Africa. Findings from the literature, as well as from the quantitative and qualitative investigations, revealed that sales force members felt that fast-tracking productivity and efficiency of the sales force were important for the achievement of company goals. The participants also felt that tacit knowledge sharing could facilitate increased productivity and efficiency. The level of utilisation of tacit knowledge sharing differed from company to company, but overall, sales force members and managers agreed that the utilisation was poor and needed definite attention and focus. Increased productivity is an issue because of large staff turnover and the fact that sales force members are struggling to cope with the workload and the daily demands of their jobs.

It is clear from the study that there are many contributing factors to optimise tacit knowledge sharing. It is also clear from the qualitative and quantitative studies that tacit knowledge sharing is used relatively scarcely in most pharmaceutical companies. There are barriers to entry for tacit knowledge sharing in pharmaceutical companies and especially the resistance to change and the unwillingness of more experienced employees to share their knowledge, might

impact negatively on the use of tacit knowledge sharing in South African pharmaceutical companies.

Tacit knowledge sharing is needed because of the potential of tacit knowledge sharing to coach, guide and mentor each sales force member in a way and at a pace that suit them and the company's goals and objectives, while recognising that each employee is different, with different abilities, interests and needs. Tacit knowledge sharing also holds a huge advantage for optimising productivity. Effective use of tacit knowledge sharing saves companies time when it comes to training employees, thereby boosting employee productivity, their morale and reducing the stress of their day-to-day operations.

As tacit knowledge sharing is already optimising productivity for knowledge workers globally, South African pharmaceutical companies are challenged to find ways of linking tacit knowledge sharing to their goals, objectives, and business strategies and making tacit knowledge sharing part of their company culture. These processes should be seen as a normal way of operating in the company, as every sales force member of whom it is required to produce and achieve objectives as fast and efficiently as possible, can benefit from it.

7.5 LIMITATIONS OF THE STUDY AND PROPOSITIONS FOR FURTHER INVESTIGATION

There are a number of limitations to the study. Its focus was only on the South African pharmaceutical industry and this might make it more difficult to generalise the findings to other industries operating in South Africa. It only focused on sales force members and managers of the pharmaceutical industry and care must therefore be taken if applied to other disciplines in the organisation. The use of non-probability sampling as used during the quantitative investigation introduces some form of bias as the research tends to converge around similar individuals. The selected sample was also not necessarily fairly representative of the South

African pharmaceutical industry. More than the current 120 respondents to the quantitative questionnaire would have facilitated even better representativeness, making the findings of this study more applicable in other contexts.

A semi-structured interview method as used during the qualitative investigation required expertise on the part of the interviewer to ensure that information relevant to the research was obtained. The data collection was therefore value-laden in terms of the interviewers' own interpretation and assumptions. This does introduce bias into the research. It would have been easier to confidently generalise the finding of the qualitative investigation if more than ten participants were used in the qualitative study, but as theoretical saturation was reached during the qualitative investigation, ten (10) participants were deemed sufficient for reliable findings.

7.6 CLOSING PERSPECTIVE

The theory on tacit knowledge sharing framed this research for the envisaged improved performance of sales force workers in the South African pharmaceutical industry. The issue at stake was investigated in terms of its core tenets. First, tacit knowledge sharing theory interrogated the knowledge industry, knowledge creation and knowledge transfer and sharing, from which a draft model emanated. Second, it maintained a business agenda, exploring dimensions such as the pharmaceutical industry, sales force employees and management options. Third, it recognised the multiple identities of knowledge sharing within the diverse circumstances of the country.

Gained from the vantage point of a mixed methods data gathering approach, the ultimate findings of the study can benefit both theoretical and practical concerns. Data from the literature review, and the quantitative and qualitative investigations informed the research process in dialoguing for mutual understanding within the diverse pharmaceutical industry to construct a tailor-made model to manage tacit

knowledge sharing. Because the foundations of this study were rooted in the theory of tacit knowledge sharing and because of its transformative potential of sales practices, this study finally engaged in delivering an original model for optimising a neglected practice in business industries. Though this study targeted the pharmaceutical industry, the model that originated from it, can be adapted to fit the needs of other companies in view of securing South Africa's position in the global economy.

It is envisaged that the outcome of this study will interest both academic scholars and business professionals, as it contributes to the body of knowledge on tacit knowledge sharing. The final model brought a structural formation to the study and forms a solid base for publications, as well as for development initiatives for sales force members in the business arena in South Africa.

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APPENDIX A

Quantitative questionnaire

Tacit Knowledge Sharing Question Business survey 2012

Please read this in order to understand the background of the study:

The knowledge that workers bring to work on a day to day basis is a critical resource embedded within organisations. The human capital brings with them skills, tacit knowledge and explicit knowledge which are used in the workplace to get work done efficiently and effectively (Cross, 2000; Stockly, 2010). Knowledge can therefore be devided into: **1. Tacit knowledge** - usually gets embedded in human mind through experience and includes work related practical knowledge, experience, deeds, commitment, thinking, competence. **2. Explicit knowledge** - is codified and digitized in documents, books, reports, spreadsheets, memos etc. The knowledge you learn school in books are good examples.
This study therefore looks at the importance of TACIT KNOWLEDGE in the workplace.

Please complete this important survey, which will be used for completing a PhD Study at the University of the Free State. ***All data will be treated confidentially and will be used for statistical purposes only.*** Please return your completed questionnaire to the office where it will be collected.

Age: (please tick one)
< 35 years
35 - 45 years
> 45 years

Race (please tick one)
Black
White
Coulored
Asian

Gender
Male
Female

Highest qualification (please tick one)
Highschool
Degree/Diploma
Postgraduate
Honours/Masters
PhD

Ref nr.

Position in organisation
(please tick one)
Representative
Product Specialist
Product Manager
Sales Manager
Senior Manager
Manager Other

Years in organisation
(please tick one)
0 - 1 year
1 - 2 years
More than 2 years

First Language

Validation:

We will check that you have completed all of the answers and that they are broadly comparable with answers from other schools. The purpose of these checks is to highlight any missing or unusual data.

Notes on completing this questionnaire:

• Please answer all the questions unless otherwise directed.
• Most of the questions have boxes beside them.
Please give your answer by ticking the box like this:

Yes	No
x	

• Numbers should be entered to the right,
e.g. 99 should be entered in a three-digit box as follows:

	9	9

If you require any further assistance then please contact 071 383 1718 or erich.bock@adcock.com

THANK YOU FOR YOUR HELP

Section 1: Sources of tacit knowledge

In this question we would like to determine which knowledge sources have been useful to your job success . We would also like to see which knowledge sources have been useful for managing yourself, managing your peers and supervisors, and managing your

Initiatives at your organisation to freely share knowledge

Yes	No	Not Sure
43	20	57

1.2. Evaluate how valuable the following sources of information have been (or will be) to help you do your job. Please also indicate below whether these instruments do

	1	2	3	4	5				
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable				
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable		UNSURE	YES	NO
Formal meetings with managers									
Informal meetings with managers									
Formal meetings with your peers									
Informal meetings with peers									
Training seminars and cycle meetings									
Conferences and congresses									
Formal meetings with your customers									
customers									
Formal meetings with colleagues from other departments									
Informal conversations with colleagues from other departments									

1.3. How much do these sources below contribute to your knowledge about managing yourself?

	1	2	3	4	5
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable
Personal experience	2	5	13	17	83
	Not valuable	Of Little	Unsure	Valuable	Highly valuable
Mentors/managers/coaches	1	3	17	9	90
	Not valuable	Of Little	Unsure	Valuable	Highly valuable
Co-workers/peers	5	7	12	35	61
	Not valuable	Of Little	Unsure	Valuable	Highly valuable
Formal training courses/seminars	0	0	10	18	92

1.4. How much do these sources below contribute to your knowledge about managing your peers and supervisors?

	1	2	3	4	5
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable
Personal experience					
Mentors/managers/coaches					
Co-workers/peers					
Formal training courses/seminars					

1.5. How much do these sources below contribute to your knowledge about managing your sales activities and customers?

	1	2	3	4	5
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable
	Not valuable	Of Little value	Unsure	Valuable	Highly valuable
Personal experience	3	10	26	58	23
	Not valuable	Of Little	Unsure	Valuable	Highly valuable
Mentors/managers/coaches	1	8	25	27	59
	Not valuable	Of Little	Unsure	Valuable	Highly valuable
Co-workers/peers	5	12	41	32	30
	Not valuable	Of Little	Unsure	Valuable	Highly valuable
Formal training courses/seminars	0	3	17	48	52

Section 2: What assistance do employees at your organisation receive regarding the acquisition and sharing of new knowledge

Section 2 invesitgates the level of assistance received by employees at their oganisation regarding the sharing and acquisition of new knowledge.

2.1. Please read the following statements and indicate in what capacity you agree or disagree with each statement.

	1	2	3	4	5
	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
When I joined the organisation, I received on-the-job training from fellow employees		1			
I often impart my work knowledge to inexperienced employees		1			
Knowledge sharing is a formal measure in my performance appraisal		1			
I am frequently encouraged to share ideas with people I report to		1			
I feel comfortable to share my knowledge and experiences to assist peers		1			
The work environment encourages people to share their views about the world and life		1			
Employees have a vast amount of knowledge which they are willing to share				1	
Based on my experience , I suggest improvements to meet strategic goals			1		
Team members with specific skills proactively help others in learning the same			1		
I need to guard my knowledge to get ahead in the organisation					1

Section 3: What benefits have you received from sharing and/or acquiring new knowledge in your organisation

3.1 Do you feel that sharing and acquiring new knowledge can improve productivity for you as a sales force member?

	Yes	No	Don't know
Improving	108	6	6

3.2. Please rate the following statements on a scale of 1-5; 1 being highly false and 5 being highly true:					
	1	2	3	4	5
	Untrue	Mostly Untrue	Unsure	Mostly True	True
My duties have increased with colleagues assisting me to become more efficient	13	10	32	48	7
I feel more satisfied with my job when I learn from other	12	18	37	50	3
As a result of what I learned from others, I have moved up the ranks (now/previously) and performed better	15	25	29	49	2
My performance bonuses increased with my team sharing best practices with me	14	40	39	22	5
I feel more satisfied with my job if I am placed in a position where I can share my own knowledge	6	10	27	63	14

3.3. What are the organisational benefits that you would say, have already or could be derived from					
	1	2	3	4	5
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Better work environment	12	20	10	47	31
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Better understanding of different cultures	21	15	9	52	23
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Efficient sales team	13	10	17	67	13
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
More productivity in the field	8	19	11	63	19
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Mistakes not repeated by other sales force members in the team	2	17	17	67	17
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Successes of the team capatilised on	2	18	59	27	14
	Strongly disagree	Disagree	Unsure	Agree	Strongly agree
Improvement in internal communication	7	22	6	49	36

Section 4: Barriers to Tacit knowledge sharing

In this section we would like to determine which barriers will hinder employees from sharing their knowledge with others as well as what will stand in the way of you acquiring new knowledge.

4.1. Please read the following statements and indicate in what capacity you agree or disagree with each					
	1	2	3	4	5
	Strongly Dissagree	Disagree	Not sure	Agree	Strongly Agree
Employees are hindered from sharing knowledge due to lack of sufficient time					
Employees are hindered from sharing knowledge due to lack of appropriate space					
Employees are hindered from sharing knowledge due to lack of management support towards sharing knowledge					
Employees are hindered from sharing knowledge due to lack of trust between employees					
Employees are hindered from sharing knowledge due to fear that sharing might reduce job security					
Employees are hindered from sharing knowledge due to poor communication skills					
Employees are hindered from sharing knowledge due to language barriers					
Employees are hindered from sharing knowledge due to age differences					
Employees are hindered from sharing knowledge due to gender differences					
Employees are hindered from sharing knowledge due to differences in culture and ethnic background					

4.2. Please read the following statements and indicate to what capacity you agree or disagree with each

	1	2	3	4	5
	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
No clear knowledge sharing strategy in place will					
No leadership towards knowledge sharing					
Shortage of formal and informal spaces to share knowledge					
Lack of motivation and rewards towards knowledge sharing					
Corporate culture that hinders knowledge sharing					
Internal competition between peers and divisions					
Hirarchy restricts communication flows					

4.3. In your opinion, what technological knowledge sharing barriers are in your way for sharing knowledge?

	1	2	3	4	5
	Strongly dissagree	Disagree	Not sure	Agree	Strongly agree
Lack of technical support					
Lack of training towards ICT systems and processes					
Unrealistic expectations towards ICT systems					

Section 5: Enablers for Tacit knowledge sharing

In this section we refer to enablers for knowledge sharing - enablers for knowledge sharing will be factors that stimulate and/or enhance knowledge sharing. Enablers therefore have a positive influence on knowledge sharing.

5.1. In your opinion, how will the following possible knowledge sharing enablers contribute towards

	1	2	3	4	5
	Very poor	Poor	Nutral	Strong	Very strong
Clear business goals linking knowledge sharing to the strategy					
Knowledge sharing strongly supported by management/leaders					
Knowledge sharing becomes a daily way of working					
Knowledge sharing used to solve everyday business problems					
Company identifies change agents to drive knowledge sharing					
The company creates the right contaxt and/or place for knowledge sharing					
Clear direction on how to report/document new knowledge					
Adequate training on supporting technologies for recording knowledge sharing					

5.2. Is your organisations incentives linked to knowledge sharing in any way?

Please tick one box

Yes	No	Unsure

Section 6: Tacit knowledge sharing instruments in the organisation

6.1. Where do you share tacit knowledge? (N = 120) Number %

Please tick where applicable:

Office		1
Coffee station or water cooler		2
Social functions/gatherings		3
Sessions organised by management		4
Other (please specify below)		5

6.2. Do you feel that enough opportunities are created for tacit knowledge sharing at your organisation?

Yes	No	Don't know

6.3. Please indicate the value that the following knowledge sharing instruments have in your

	1 Not valuable	2 Of Little value	3 Unsure	4 Valuable	5 Highly valuable		Please also indicate below whether these instruments do exist or not in your organisation: Unsure	YES	NO
Mentoring programmes									
New employee induction									
New employee training courses									
Brainstorming sessions									
Communities of practise									
E-mail communications									
Project teams comprising of multi-functional team members									
Workshops to discuss key learnings									
Social events for employees									
Knowledge management ICT tool									

6.4. In your opinion, what channels, processes and/or systems can be instituted in your organisation that would result in greater sharing of employee's personal knowledge and job-related experiences, for the benefit of the teams and the organisation?

6.5. To what extent is ICT (computer programs) used to record knowledge in the following areas

Please tick one box on each line

Never	Seldome	Unsure	Often	Very often

6.6. In conclusion, do you feel that tacit knowledge sharing can improve productivity for the sales force members of pharmaceutical companies?

Yes	No	Don't know

Section 7: Completion time

7.1. How long did you spend completing this form?

Please write in: minutes

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

Please return it in the envelope provided to the office where it will be collected

APPENDIX B

Qualitative questions:

1. What is your viewpoint on knowledge sharing between the sales force members of the pharmaceutical industry and then in particular the tacit aspect of knowledge?

2. What role does tacit knowledge sharing play in your organisation?

3. In your viewpoint, what are barriers to tacit knowledge sharing for the sales force members in your organisation? Why do some sales force members hold on to their knowledge?

4. In your opinion, what would you say are enablers of tacit knowledge sharing in your organisation? What would facilitate tacit knowledge sharing between sales force members?

5. What tacit knowledge sharing instruments/tools are currently in place for the sales force members to utilise?

6. What form of practises, channels, systems, structures and processes can be implemented to improve the level of tacit knowledge sharing for the sales force members in your organisation?

7. What are the organisational benefits that in your opinion could be derived from tacit knowledge sharing?

8. In your opinion, will the sharing of tacit knowledge between sales force members lead to greater productivity and efficiency? Will tacit knowledge

sharing lead to fast-tracking the targeted performance of sales force members?

9. Do you think that creating an environment where employees of different cultural backgrounds can openly share knowledge has any business importance?

10. What are being done in your organisation in dealing with the tacit aspect of knowledge with a cultural diverse workforce?

11. In dealing with a multi-cultural workforce, what do you think would be fundamental to more effectively managing tacit knowledge sharing between different cultures?

APPENDIX C:

CURRICULUM VITAE:

BOCK, Erich (Business Administration/Besigheids Administrasie)

Erich Bock was born in Bloemfontein on 11 December 1979.
He received his secondary education in Bloemfontein where he matriculated at the High School Sentraal in 1997. He obtained the degree BA - Human Movement Science in 2001, Honours in Psychology in 2002, a Post Graduate Teaching Certificate with distinction in 2003 and a Masters in Business Administration (General Management) with distinction in 2007 at the University of the Free State. He started his career as a primary school teacher and cricket coach in Bloemfontein in 2002. In 2010 he made a career move and ultimately ended up in Adcock Ingram as National Sales Manager in Midrand. At present he is the Hospital General Manager for Netcare Linksfield and Linkwood hospitals in Johannesburg. He is married to Yolandé and the couple has a son, Heinrich aged seven, and a daughter, Mia aged one.

Erich Bock is op 11 December 1979 in Bloemfontein gebore.
Hy ontvang sy hoërskool opleiding in Bloemfontein waar hy in 1997 aan die Hoërskool Sentraal matrikuleer. Hy behaal die graad BA – Menslike Bewegingskunde in 2001, Honeurs in Sielkunde in 2002, ‘n Nagraadse Onderwys Sertifikaat met lof in 2003 en ‘n Meesters in Besigheids Administrasie (Algemene Bestuur) met lof in 2007 aan die Universiteit van die Vrystaat. Hy begin sy loopbaan as laerskool onderwyser en krieketafrigter in 2002 in Bloemfontein. In 2010 maak hy ‘n loopbaanskuif en eindig na dese op as Nasionale Verkoopsbestuurder van Adcock Ingram. Tans is hy die Algemene Bestuurder van Netcare Linksfield en Linkwood hospitale in Johannesburg. Hy is

getroud met Yolandé en die egpaar het een seun, Heinrich, wat sewe jaar oud is, en ‘n dogter, Mia, wat een jaar oud is.