KNOWLEDGE MANAGEMENT FOR SERVICE DELIVERY IN RURAL COMMUNITIES

by

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ABSTRACT

The aim of the dissertation is to indicate that a large number of problems in rural communities are the consequence of ineffective knowledge management, and that the effective management of knowledge could significantly improve the range and quality of services provided to community members. Knowledge is reviewed by examining the process of changing social facts into data, data into information and information into knowledge. Knowledge management is examined by reviewing the history of knowledge management as well as defining the term knowledge management. A generic model for knowledge management is developed that divides knowledge management into five basic processes namely; knowledge identification, knowledge mobilisation, knowledge generation/elaboration, knowledge application and knowledge evaluation. The model further describes the knowledge management "enablers" that can either facilitate or debilitate the management of knowledge. Various practical suggestions are proposed that will facilitate the implementation of a knowledge management programme in a rural community.

Key terms

South Africa, Mpumalanga, Knowledge management, Rural communities, Service delivery, Social systems, Processes of knowledge management, Knowledge management enablers.

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CHAPTER 1

BACKGROUND, RATIONALE AND AIM OF THE RESEARCH

The purpose of Chapter 1 is to provide insight into rural communities in South Africa as well as describing the nature of a Situation Analysis conducted in three rural communities in Mpumalanga during 2002. Data from the Situation Analysis was used as the foundation of the current research and also provided the rationale for the current research project. Chapter 1 also discusses the objectives of the current research and provides a concise description of the chapters included in the dissertation.

1.1. INTRODUCTION

The current chapter commences with a discussion on how rural communities are defined and secondly provides background information on rural communities in South Africa. This is followed by an account of why rural communities in South Africa are vulnerable and in need of attention.

1.1.1 Defining rural communities

It is important to articulate a definition of “rural” in any discussion of rural communities. How “rural” is conceptualised, has a direct impact on the interpretation of findings, as well as on the lives of individuals in these rural communities. The tremendous heterogeneity in types of rural communities makes development of common definitions difficult (Castaneda, 2000).

The most common way of defining rural communities, divides regions into metropolitan and non-metropolitan statistical areas, according to the number of people living in a certain area. Official definitions that rely solely on a single variable, e.g. population size, are not comprehensive enough to adequately encompass the diversity of rural communities. Therefore, alternative definitions of "rural" have been developed. These alternative definitions not only include an indication of population size, but also characteristic occupations in these regions, such as farming or the timber industry, sociocultural descriptors such as rural values, attitudes and behaviour as well as ecological aspects such as degree of geographic isolation (Lee, 1991; Jordan & Hargrove, 1987).

In the identification of the rural communities for the Situation Analysis, the predominant indicators used to define the communities, were low population density as well as remoteness or distance from urban resources.

1.1.2 Rural communities in South Africa

Development and modernisation has been the great preoccupation of developing countries throughout the world. Unfortunately, these developments are focused on the large metropolitan areas. In most instances, rural communities are removed and separated from the more urban environments, not only by their geographical location, but also by the interest given to these communities. It is therefore not surprising that Bushy (2000) refers to rural communities as "lost populations". Many rural communities are on the brink of total collapse and disarray due to this alienation and estrangement. Political, sociocultural, economic, educational and health dimensions form an interconnecting web of forces that marginalize rural communities and make them one of the most vulnerable societies in the modern world.

In South Africa, years of apartheid have forced many people into rural settings, where they traditionally lived, but without giving any attention to the health and social welfare of people living in these communities. Motteux, Binns, Nel, and Rowntree (1999) describes the situation as follows:

> Inequality is particularly acute in the former Homelands, which were the “dumping-grounds” of black people during the apartheid era. The economics of these areas were, and still largely remains, dependant upon state pensions, financial earnings, and transfers from the metropolitan areas.

The disregard for these communities has led to a deterioration of social and health services in these rural areas. Lee (1998) indicates that until a decade ago, health care delivery, as well as many other services in rural communities, were virtually ignored by lawmakers, policy developers and professionals.

The return of South Africa to the global stage in 1994, witnessed the initiation of a range of innovative development policies, to address some of the most acute levels of inequality in the world (Rogerson, 1994; Binns 1998). Despite strategies such as the Reconstruction and Development Programme (RDP) (Nel, 1994; RSA, 1994), which accords considerable attention to community empowerment and development, the scale of the task after generations of apartheid policies, is all too apparent. Although the present government has made considerable progress in addressing the plight of rural communities, the recent Situation Analysis in three rural communities in Mpumalanga, indicate that the availability and quality of services in rural communities need to be improved.

Statistics about the number of people living in rural communities in South Africa are scarce. Neither the 1996 census, nor the 2001 census provides any indication of the rural/urban divide in South Africa. Stats S.A. indicated that they are in the process of investigating the definition of these terms, in the light of the new municipal dispensation and have therefore not made an urban/rural breakdown during the census.

Other sources however do provide some sort of indication of the population breakdown in terms of rural and urban settings. Stats S.A. provide an indication of this breakdown in their 2002 Labour force survey, and point out that, of the 45 million people in South Africa, 20.28 million live in non-urban areas, which represents approximately 45% of the population (Labour force survey, 2002). These estimates

correspond with the World Development Indicators published by the World Bank (Development data centre: The World Bank, 2002)

1.1.3 Rural communities at risk

It could be said that people in rural communities are often discounted or misunderstood. In addition, people living in rural communities face a large number of challenges, as will be indicated in later chapters. Compared to their urban counterparts, these people have fewer economic and social resources, are poorly educated and more likely to be unemployed, inadequately housed and exposed to multiple health and social risks. These members of society are vulnerable because they are physically, psychologically and socially disadvantaged. As President Nelson Mandela indicated:

> Rural people bear the largest burden of poverty in South Africa (Government gazette, 1995).

When discussing rural communities, the notion of disenfranchisement comes to mind. Disenfranchisement refers to the feeling, experienced by a person or groups of people, of being separated from mainstream society (Bushy, 2000). When this phenomenon occurs, a community does not feel emotionally connected with society. The notion of disenfranchisement suggests that a group of people or a whole community, do not have sufficient resources to effectively manage their own life and have a fulfilling lifestyle. In the South African context, Motteux et al. (1999) indicate that the loss of property rights, place-identity (commonly resulting from forced removals) and consequently self-esteem, has resulted in rural communities being the most materially and psychologically deprived entities in South Africa today. This may be attributed to not having well-established links with health care providers, social service agencies, churches, schools, police services, and also having few informal sources of support like family, friends and neighbours.

Although extended family members traditionally provide the foundation for social and family support in rural communities, a recent study - conducted by the Bureau of

Market Research in collaboration with the Department of Social Services, Population and Development - indicate that this feature of rural families are slowly changing. Urbanisation, migration and HIV/AIDS have deteriorated this type of family support structure.

Sparse populations, as found in rural communities, are often limited to specific services and service providers in their immediate area, solely because of their depleted numbers. These communities also have limited differentiation and specialisation of services.

From the preceding discussion, it becomes evident that rural communities in South Africa are vulnerable and at risk. If drastic changes are not implemented in the near future, almost half of our population face destructive and life debilitating consequences.

1.2. BACKGROUND TO THE CURRENT RESEARCH

During October of 2002 the author was a member of a research team that conducted a Situation Analysis in three rural communities in Mpumalanga for the Department of Social Services, Population and Development. The data collected during the Situation Analysis provided the rationale for the current research and is used as a secondary literature source for the current research project. The following section provides a concise description of the Situation Analysis, the objectives of the Situation Analysis as well as the methodology followed during the Situation Analysis.

1.2.1 Background of Situation Analysis

The aim of the Situation Analysis was to investigate the services rendered to people infected with, and affected by, HIV/AIDS in three rural communities. The three communities formed part of the provincial pilot sites for the Integrated Plan on

HIV/AIDS and were purposefully selected because they were representative of typical rural areas in the three regions in Mpumalanga.

The three communities identified by the Department of Social Services, Population and Development for the purposes of the Situation Analysis were:

1) Mmametlhake: approximately 90 minutes drive north of Pretoria in the Rust de Winter area,
2) Matibidi: situated north of Graskop in the proximity of the Blyde River Canyon, approximately 50 km west of the Kruger National Park, and
3) Elukwatini: situated between Badplaas, Baberton and the border of Swaziland.

According to Miller, K., Miller, R., Askew, Horn, and Ndhlovu (1998) the situation analysis approach consists of an evaluation of:

1) The availability of services as well as the functioning of service providers;
2) The readiness of service providers to provide services to community members;
3) The quantity and quality of services rendered by service providers; and
4) The impact of such services on the behaviour and lives of community members.

1.2.2 Aim of the Situation Analysis

Although the aim of the research was to establish the availability and quality of services to individuals infected and affected by HIV/AIDS, it became clear that service providers did not differentiate between individuals infected and those affected by HIV/AIDS and non-infected and -affected community members. Because of stigmatisation and the fact that people infected and affected by HIV/AIDS need similar types of services, many service providers adopt an integrated approach towards the services they render and do not specifically isolate services related to HIV/AIDS. Therefore, the population that was identified by the Department of Social Services, Population and Development for the purpose of the Situation Analysis,

consisted of all service providers and service recipients located in and around the three rural communities.

1.2.3 Methodology of Situation Analysis

For the purposes of the Situation Analysis, both primary and secondary data were collected. The primary data consisted of various area surveys, as well as a large number of focus groups. By means of the area survey, data were collected from hospitals, clinics, schools, NGO's and social service providers. Focus groups were conducted in the three communities with specific people, who were identified as important respondents for the purposes of this study. The respondents included: teachers, social workers, police officers, health district managers, HIV/AIDS co-ordinators, hospital and clinic nurses, as well as nursing service managers. These participants were identified by means of a non-probability sampling technique, otherwise known as judgmental sampling, which makes use of expert knowledge to determine who should be included in the sample.

Additionally, various members in the community like school learners, traditional leaders, local councillors, church members as well as employees of various Non Governmental Organisations were included in the study. This type of sampling ensured that opinions of general community members as well as children were collected.

Area surveys and focus group discussions were used to obtain information about the communities, as well as community members' perceptions of the quality and quantity of these services. A total of 15 focus groups were conducted and included approximately 200 respondents.

1.3. RATIONALE FOR CURRENT RESEARCH

During the physical conduction of the Situation Analysis and the interpretation of the data, it became clear that one underlying aspect had an influence on a large number of problems experienced in these rural communities. Limited information and knowledge was the predominant cause of a large number of problems related to ineffective service delivery.

Not only was there a lack of information and knowledge in these communities, but the information and knowledge that were available, were also not disseminated and shared effectively. The limited amount of information and knowledge in these communities had a negative impact on the delivery of services. In addition, the lack of information and knowledge was the predominant cause of non-integration and a lack of communication between different service providers or between service providers and community members. This subsequently affected the quality of services provided to community members.

It became clear that the non-management of information and knowledge had a detrimental effect on the quantity and quality of services provided to members in these rural communities. From the analysis of the data, it was evident that an effective knowledge management strategy could eliminate many of the problems encountered in these communities and subsequently improve the range, as well as the quality of services available to community members. The author therefore explored the possible use of a knowledge management strategy, aimed at improving the creation and dissemination of information and knowledge. This would increase the knowledge base of community members, as well as the knowledge base of service providers and subsequently improve the delivery of services, and quality of services provided to community members. Various other authors also recognise the importance of knowledge in terms of rural community development. Motteux et al. (1999) suggest that there is an urgent need to integrate community knowledge with external expertise, in the pursuit of environmentally sustainable development strategies, while Chambers (1994) indicate that it is of utmost importance that research approaches and

methods, enable local people to share, enhance and analyse their knowledge of life and conditions.

Therefore, the current dissertation attempts to enrich the disciplines of community- and development psychology and bridge the gap between knowledge management as a theoretical and business-based concept, and knowledge management as an approach to address everyday challenges faces by a large number of South African who live in rural communities.

1.4. OBJECTIVES OF THE CURRENT RESEARCH

The aims of the current dissertation are as follows:

1) Investigate the field of knowledge management in order to identify generic knowledge management concepts

2) Develop a generic knowledge management model that could be implemented in a social setting

3) Use the generic knowledge management model to indicate how the non-management of knowledge affects service delivery in rural communities

4) Expand the generic knowledge management model into a comprehensive knowledge management framework that addresses all aspects related to effective knowledge management

5) Provide practical suggestions to implement the knowledge management framework in a rural community

The subsequent section provides a chapter breakdown and a short description of the different aspects that will be covered in each chapter.

1.5. CHAPTER BREAKDOWN

Chapters 2-4 provides a theoretical background for the research. **Chapter 2** is an introduction to the management of knowledge. This chapter focuses on the different types of knowledge, as well as the process required to turn social facts into knowledge and wisdom. **Chapter 3** describes the concept of knowledge management and indicate the rationale behind the management of knowledge. **Chapter 4** commences with the identification of generic aspects associated with the management of knowledge and concludes with a generic model of knowledge management.

Chapter 5 investigates the rationale behind the management of knowledge in a social setting, while **Chapter 6** describes the management of knowledge in a rural social system. **Chapter 7** illustrates some of the knowledge related problems encountered in the rural communities and indicate how an effective knowledge management strategy could eliminate these problems and subsequently improve the quality of services to community members.

Chapters 8-10 describes various aspects associated with the implementation of knowledge management in a rural community. **Chapter 8** describes the context, or knowledge management enablers, that is essential for the effective management of knowledge. **Chapter 9** provides practical suggestions for transforming the existing knowledge management enablers while **Chapter 10** provides practical suggestions to implement the knowledge management processes. **Chapter 11** provides and overview of the research findings and recommendations for future research.

CHAPTER 2

DECONSTRUCTING KNOWLEDGE

2.1 INTRODUCTION

A vital component of knowledge management is knowledge itself. It is therefore imperative to understand what is meant by the term “knowledge”, before the field of knowledge management is investigated. The subsequent section attempts to deconstruct knowledge, by examining three characteristics of knowledge. The first characteristic is that knowledge is not something independent that exists in isolation, but that knowledge is essentially imbedded in people and social systems. Secondly, knowledge is the result of a process that changes social facts into data, data into information and information into knowledge. And thirdly, there are various types of knowledge and these different knowledge-formats have certain implications for the management of knowledge.

2.2 KNOWLEDGE AS A PROCESS

Stacey (2001) indicates that knowledge is not a “thing”, but an ephemeral or a short-lived active process of relating. Knowledge is a capacity that is imbedded in people, organisations and communities. This “knowledge capacity” is continuously regenerated and renewed in response to our external environment. We are constantly being challenged by adversity, changing circumstances and new opportunities, which lead to, and require a change in our current knowledge-state. Knowledge should therefore not been seen as an autonomous entity that either exists, or does not exist, but as a process of changes that leads to the development of a desired knowledge-state.

Not only is it the knowledge-state that changes and develops through a number of processes, but the knowledge itself is also created through a process of changes. Knowledge doesn’t start out as knowledge. Knowledge is the result of a process that

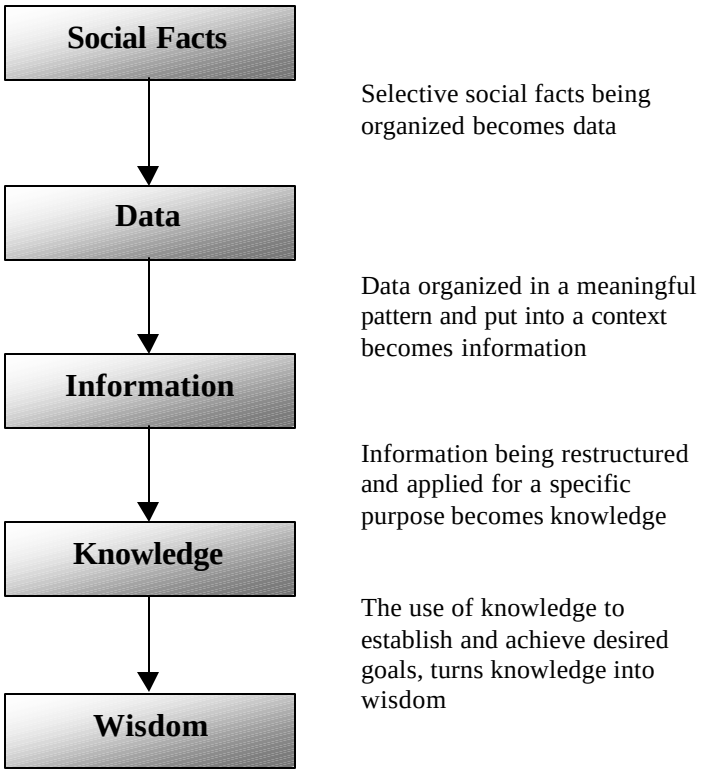
transforms social facts into data, data into information and information into knowledge (figure 1). This evolution of knowledge has a direct correlation to the management of knowledge. One of the objectives of knowledge management is to change social facts, data and information into valuable and useful knowledge. The following account of how this evolution takes place will facilitate the understanding of the various processes involved in the management of knowledge.

2.3 FROM SOCIAL FACTS TO KNOWLEDGE

Although it is possible to say, depending on one's perspective on knowledge, that some knowledge can exist independently, the bulk of knowledge exists only as a result of a process. This process commences with the recognition of a social fact, transforming this fact into data, data into information, information into knowledge, and finally, knowledge is transformed into wisdom. The subsequent section describes each of these processes as illustrated by Figure 1.

Figure 1

The evolution of knowledge



2.3.1 From social facts to data

Social facts exist independently in the environment or in a particular system. Whether these facts are studied or not, whether people are aware of them or not, does not influence their existence. Data on the other hand, are abstractions of social facts and naturally lead to a reduction in the quantity and quality of the facts available in a system at any specific moment (Fernandez & Raja, 2002). It is therefore possible to have different data about the same social facts. Two individuals looking at a car in the parking area will have markedly different views about the car. The car that is parked in the parking area can be seen as a social fact, while the aspects that each of the individuals focus on and remember about the car, can be seen as the data that each individual collects.

Johannessen, Olaisen, and Olsen (2002) describe data as the selective arrangement and structuring of social facts. Therefore, any research is primarily the study of facts and not the study of data. The analysis of data is therefore a method used to insidiously gain access to social facts.

2.3.2 From data to information

Selected social facts, or data, have no meaning on their own. In order to make the data meaningful, it has to be turned into information. Put another way, data is only the raw material used to create information. When data is organised and categorised in a meaningful pattern, it becomes information. The organisation and categorisation of data should be done while focussing on the context from which the data was extracted. The context becomes the code that decodes the data and turns it into valuable information (Johannessen, et al. 2002). A book written in Arabic contains a lot of data, but only contains information when you understand Arabic. An understanding of the language (or code) is necessary to turn the data into information. Information can therefore be defined as organised data that is decoded within a specific context.

2.3.3 From information to knowledge

Information, or decoded data, irrespective of how complete the information might be, is still not knowledge. Individual pieces of information need to be connected with one another in a network of relations, for it to become knowledge. Put another way, knowledge is the arrangement and structuring of information for a specific purpose (Machlup, 1983). Jantsch (1980) supports this view and states that knowledge as organised information may also be interpreted as complexity. Since knowledge is a function of the organisation of information, a different way of structuring the information invariably leads to different knowledge.

However, the structuring of information alone is not sufficient to turn information into knowledge. Information needs to be activated, by applying it in a specific context and to a specific situation, to be transformed into knowledge. This notion is substantiated by Finerty (1997) who states: “Learning is enhanced by applying knowledge to real problems – creating deeper understanding”. Therefore, knowledge is the result of organising information and then applying the information in a specific context and to a specific situation or problem. The application of information qualitatively transforms information into knowledge, since it provides insight in terms of the effect the information has on a specific context. Without the application of information, which leads to understanding and knowledge, information remains information.

2.3.4 From knowledge to wisdom

Wisdom is defined by Webster (1961) as the faculty of making the best use of knowledge, experience and understanding by exercising good judgement. Wisdom is an action-orientated concept, geared to applying appropriate organisational knowledge during planning, decision making and implementation (action) stages. Therefore wisdom is defined as the ability to best use knowledge for establishing and achieving desired goals and learning about wisdom as the process of discerning judgements and action based on knowledge (Bierly, Kessler & Christensen, 2000).

2.3.5 The role of research in changing social facts into knowledge

The aim of any research project should be to change social facts into knowledge. The following example explains how researchers are constantly engaged in the process of turning social facts into knowledge. The socio-economic situation in the rural community and the daily challenges and experiences of community members, are the social facts that exist in the rural-community-system. The focus groups and area survey select and organise various social facts and turn them into data. The data is structured and organised into a meaningful pattern by performing various statistical analysis on the data. The context from which the data were extracted, i.e. the rural community, is then used to interpret the data and turn it into information, which is then supplied to the Department of Social Services, Population and Development. When the information is applied in the rural community setting and the impact of this information is understood, the information is changed into knowledge. Without the final transference from information to knowledge, the value of the research remains elusive.

Researchers are restricted in terms of changing information into knowledge as well as turning knowledge into wisdom, since this is generally the responsibility of the client. However, the author is of the opinion that the importance of transferring information into knowledge and wisdom should be explained to clients. Researchers should also make this transference as painless as possible for clients, by providing guidelines on how to apply the information in a specific context.

2.4 DIFFERENT KNOWLEDGE FORMATS

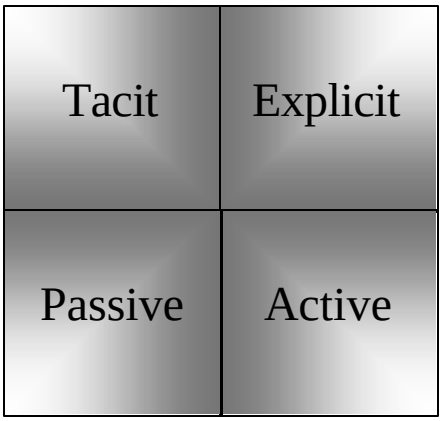
2.4.1 Introduction

Not only is knowledge a process that cannot be isolated as something that exists indefinitely in an unchanged form, but there is also different types of knowledge. Several authors (Linde, 2001; Abou-Zeid, 2002; Lee & Yang 2000) recognise the distinction between tacit and explicit knowledge. There is however, another

distinction as described by Kermally (2002). In his book "Effective Knowledge Management – A best practice blueprint" he makes a second distinction, between active knowledge and passive knowledge. Knowledge can therefore be divided into four types of knowledge: tacit and explicit and passive and active (figure 2). The subsequent section describes the characteristics of the different types of knowledge, as well as the complex interplay between these different formats.

Figure 2

Types of knowledge



2.4.2 Tacit and Explicit knowledge

Tacit knowledge is the unspoken and implied knowledge that exists inside people. It is the skills and "know-how" that is intrinsic to each of us and is difficult to transfer. Snowden (2002) state in this regard:

> We can always know more than we can tell, and we can always tell more than we can write down.

The concept of "we know more than we can tell, and can tell more than we can write down", is an accurate description of the characteristics of tacit knowledge. Tacit knowledge is therefore easily lost since it is intrinsic to each individual and is difficult to share and difficult to capture and preserve.

Explicit knowledge on the other hand, is knowledge that can be seen and people are mostly aware of it. It is also precise and clear and can be written down and documented in most instances. Nonaka (1994) states that explicit knowledge can be clearly articulated, communicated in formal and systematic languages or codes, and set down in written documents. This is the major reason why the transfer of explicit knowledge is easier than the transfer of tacit knowledge (Laszlo & Laszlo, 2002).

A number of researchers (Howells, 1996; Sveiby, 1997 & Stewart, 1997) argue that managers and academics have mostly neglected tacit knowledge in the past. This however, has changed and a stronger focus is being placed on tacit knowledge.

Nonaka (1994) and Nonaka and Takeuchi (1995) indicate that the importance of tacit knowledge is now being realised and that many organisations recognise it as their most important strategic resource. This type of knowledge is difficult for other companies to imitate and is rooted in the specific context of an organisation and the specific problems encountered in that organisation. The challenge for organisations is to identify this type of knowledge and to gain insights into how it is developed, transferred and integrated into the company.

2.4.3 Active and Passive knowledge

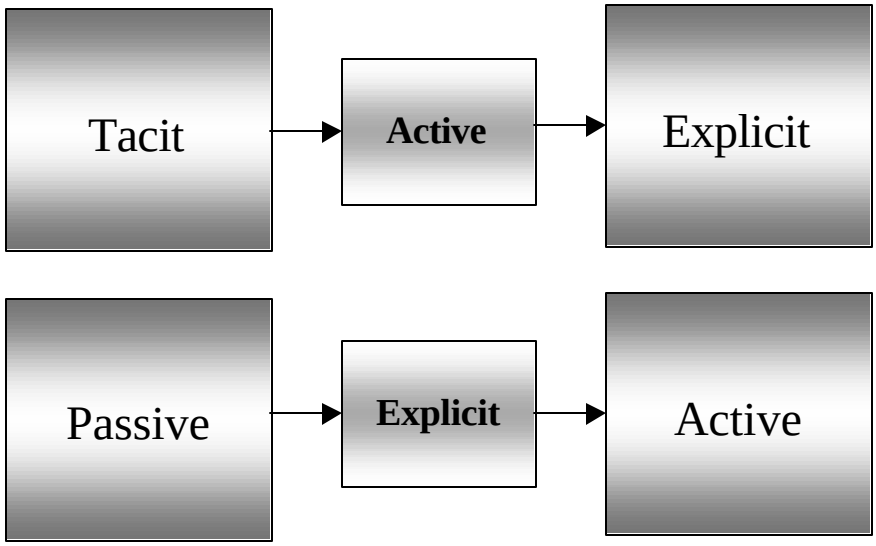
Passive knowledge can be seen as knowledge that is embedded in processes and procedures. This knowledge is deeply rooted and not easily visible, much like tacit knowledge. Active knowledge on the other hand, is knowledge that is visible and used continuously. Although both active and passive knowledge have an impact on the decisions of individuals and the organisation as a whole, people are aware of the active knowledge, while they mostly remain unaware of the passive knowledge that influences them (Kermally, 2002).

2.4.4 The relationship between the various kinds of knowledge

The relationship between the different types of knowledge within the framework of knowledge management can be described as follows: The aim of knowledge management is firstly to transform tacit knowledge into explicit knowledge, which can be easily transferred and preserved, and secondly to transform passive knowledge into active knowledge, which can be understood and consciously utilised. The process of converting these two types of knowledge is displayed in figure 3.

Figure 3

Transformation of knowledge



As displayed in figure 3, for tacit knowledge to become explicit it needs to become active. An example of this is a person who is engaged in his/her apprenticeship. The mentor needs to be actively involved in the training of the apprentice. The knowledge the mentor possesses, needs to be actively applied by the apprentice if the knowledge is to be transferred to the apprentice. Similarly, the tacit knowledge that exists inside people needs to be captured and documented to preserve the knowledge. By actively transforming the tacit knowledge into an explicit format, the likelihood of effectively disseminating the knowledge to other employees is improved. However, for this

process to be successful, people need to be actively involved in designing a method to transform the tacit knowledge into an explicit format. Without an innovative and dynamic activity on the part of the knowledge management advocates in the organisation, the conversion of tacit knowledge into explicit knowledge becomes problematic, if not impossible.

For passive knowledge to become active, the knowledge needs to become explicit. To facilitate the transference of the passive knowledge embedded in processes and procedures the knowledge needs to be documented and articulated. People are mostly unaware of the passive knowledge that exists inside their organisation and need to be exposed to this knowledge. One of the most effective ways to accomplish this is to verify and document the passive knowledge. By transforming passive knowledge into an explicit format, the dissemination and activation of the knowledge becomes possible. The explicit format of the passive knowledge will make employees more aware of the passive knowledge embedded in their procedures and processes, which in turn will encourage the active utilisation of this knowledge.

It is therefore vital that processes and initiatives are introduced in organisations that enable the transfer of passive knowledge to active knowledge and tacit knowledge to explicit knowledge. The environment within the organisation should therefore be conducive to the transference of one type of knowledge to another. It must however be said, that each of these forms of knowledge can exit independently from one another and that it is not always possible to completely convert one form of knowledge into another form. Because of their nature, each of these forms of knowledge performs functions that the other cannot do and can therefore not always be completely converted.

Although tacit and explicit knowledge can exist independently from each other, Nonaka and Takeuchi (1995) indicate that knowledge in organisations is created through a continuous dialog between tacit and explicit knowledge. However, the dynamic interplay between tacit and explicit knowledge signifies that even if an organisation focuses all its attention on the study and transfer of their tacit knowledge, it is quite difficult to investigate or improve the transfer of tacit knowledge without

contemplating the role of the explicit part of the knowledge base of the organisation (Johannessen, et al. 2002).

The above distinction highlights one important aspect of knowledge: knowledge can be lost. The tacit knowledge that employees in an organisation possess are easily lost if it doesn't become explicit. Corning, a large IT company in the United States, estimated that they have lost 2000 accumulative years of experience as a result of retirement packages offered in 1998 (Newhouse, 2003).

The passive knowledge that is embedded in processes can be much more valuable if employees are aware of this knowledge and use it actively on a daily basis. In order to combat knowledge attrition it is imperative to transform tacit knowledge into explicit knowledge and passive knowledge into active knowledge.

2.4.5 In conclusion

The preceding section illustrated that knowledge can exist in many formats and that knowledge is not a tangible and physical entity that exists independently. Knowledge is a capacity that exists inside people, organisations and communities. Since knowledge is dynamic, i.e. it is continuously regenerated and renewed, and since knowledge can also be lost, the management of knowledge should be a strategic priority for any organisation. Binney (2001) points out that the effective implementation of a sound knowledge management strategy is seen as a mandatory condition for success for organisations entering the knowledge era. Through the full utilisation of available knowledge and the embodying of knowledge into products and services, the core competencies of the organisation can be enhanced (Gao & Nakamori, 2002).

The effective use of the available knowledge in an organisation necessitates the management of knowledge. The following chapter will therefore focus on the different aspects associated with the management of knowledge.

CHAPTER 3

THE MANAGEMENT OF KNOWLEDGE

3.1 INTRODUCTION

The subsequent discussion focuses firstly on the history of knowledge management, indicating that knowledge management as it exists currently, is quite different from what it was when the term first emerged. Secondly, the term knowledge management will be defined, followed by a discussion on the key characteristics of knowledge management.

3.2 THE HISTORY OF KNOWLEDGE MANAGEMENT

According to Michael Koenig dean of the College of Information and Computer Science at Long Island University, knowledge management has gone through three phases (Ponzi & Koenig, 2001).

The **first stage** was the technology stage. Organisations realised that their intellectual capital is of utmost importance and when the Internet became a reality, they saw this as an effective way to leverage this intellectual capital and make their organisational knowledge more valuable. During the **second stage,** organisations became aware that technology alone is insufficient to manage knowledge effectively. The human element is an essential component for the effective use of available technologies. Individuals need to be motivated, encouraged and guided to utilise the available technology for the management of knowledge. The **current stage,** according to Koenig, is the realisation that not only should knowledge be available, but organised in such a way that it can be located easily by those who need it, subsequently increasing the value of the knowledge.

Research done by Ponzi and Koenig indicates that knowledge management grew rapidly from 1995 to 2000. From 2001 to 2002 there was a slight decline in the number of published articles about knowledge management, but it has currently stabilised and appears to be growing again. Their findings suggest that knowledge management doesn't follow the same trend as typical management "fads" and that it is likely to establish itself as a new aspect of organisational management, which forms a vital component of any organisation.

3.3 KNOWLEDGE MANAGEMENT DEFINED

As the history of knowledge management indicated, the management of knowledge became apparent first and foremost in the business world and its use is still the most prevalent in the corporate business environment. Carrillo (2002) indicates that the business driven origins of knowledge management have earned its citizenship in the corporate environment. Current definitions are therefore influenced by terms and objectives within the business environment. Knowledge management can be described as the process through which an organisation generates value from their intellectual and knowledge based assets (Sveiby, 1997). Put differently, knowledge management is the process of capturing the collective expertise and intelligence, inside and outside an organisation, and use this to foster innovation through continued organisational learning (Devenport, Jarvenpaa & Beers, 1996; Earl & Scott, 1999; Glasser, 1998; Nonaka, 1991; Quinn, Anderson & Finkelstein, 1996).

Although these definitions are influenced by the corporate culture from which they emerged, the fundamental characteristics that underline knowledge management can be identified and described differently. Knowledge management, in a broad sense, is a collection of ***processes*** to combat the ***loss of knowledge***, through the ***dissemination*** of existing knowledge and the ***creation*** of new knowledge, to achieve certain ***objectives***.

These five characteristics associated with knowledge management will be discussed in the subsequent section.

3.3.1 Knowledge management as a process

As previously discussed, turning data into knowledge is based on a series of activities that transforms data to information and information to knowledge. Knowledge management itself is a series of activities or a process, which commences with the identification of knowledge deficiencies in the organisation, and employs certain strategies to address these deficiencies.

3.3.2 Combat the loss of knowledge

A central concept implicitly stated by the need to manage knowledge, is that knowledge can be lost, and therefore should be managed. The attrition of knowledge is the result of working in silos and keeping ones knowledge to oneself. To combat this erosion of knowledge in the organisation, a learning environment needs to be created that encourages individuals and groups to share their knowledge (Robbins, 2003).

3.3.3 Dissemination of knowledge

Probably the most important aspect of knowledge management is the dissemination of knowledge. Within every organisation or institution, it is imperative to constantly circulate knowledge throughout the organisation, ensuring the intellectual nourishment of all employees. Lee and Yang (2000) indicate that organisations should foster employee's willingness to share knowledge and contribute to the knowledge base of the organisation. If a culture of sharing can be established, employees will realise that it is to their collective benefit to share ideas, information and knowledge.

3.3.4 Creation of new knowledge

Another vital component of knowledge management is the creation of new knowledge. As socio-economic conditions are constantly changing, these changes

"force" individuals and organisations to constantly change and renew themselves. The capture and reuse of existing knowledge is no longer sufficient to cope with the rate of growth necessary for the organisation to flourish (Dayan, 2003). This organisational renewal occurs when new knowledge is continuously created to deal with changing conditions and situations.

3.3.5 Achieve an objective

The aim of knowledge management is to achieve certain objectives. These objectives can either be directly related to the management of knowledge, i.e. providing training for new employees, or related to other problems in the organisation that could be solved by improving the management of knowledge. The ability of knowledge management to increase the organisation's capacity to progress and develop, is closely related to the underlying purpose of the knowledge management endeavour (Wong & Raddiffe, 2000). Not only is a clear knowledge management objective necessary to provide direction for employees and management, but it is also used as a benchmark to evaluate the success of the knowledge management initiative.

Although knowledge management originated in the business environment, knowledge management is in essence a strategic management approach, applicable to purposeful human organisations in general. It is an integrated approach to identify, manage, share and capitalise on the know-how, experience and intellectual capital of staff in an organisation (Todd, 1999; Martensson, 2000 & Rowley, 2000). The subsequent section will investigate some of the reasons why organisations and institutions manage knowledge.

3.4 THE RATIONALE FOR KNOWLEDGE MANAGEMENT

The current "information age" or "knowledge era" as it is also referred to, is characterised by the existence and availability of an abundance of information and knowledge. Most organisations, institutions and communities are rich sources of

information and knowledge. Because of the sheer volumes of information and knowledge available, knowledge management is an effective way to organise the clutter caused by the information and knowledge overload experienced by most organisations (Lim, 1999).

Since some of the knowledge that exists in organisations, institutions or communities are obsolete, completely wrong, or inaccessible, the knowledge itself is of little value to the organisation, institution or community. The knowledge must be organised, disseminated and actively used, in other words effectively managed, to be of any value to the organisation. In addition, institutions, organisations and communities are continuously creating new knowledge, which can rejuvenate their existing knowledge, if it is managed and integrated into the knowledge base of the organisation.

The importance of knowledge in the current "knowledge era" is exemplified by Drucker (1993) who describes knowledge, rather than capital or labour, as the only meaningful resource in the knowledge society. Senge (1990) warns that many organisations suffer from "learning disabilities" and are unable to function as knowledge based organisations. The ability of organisations to learn, adapt and change, is a core competency needed for their survival and largely depends on how effectively they manage their knowledge (Rowley, 1999).

If we fail to recognise the importance of knowledge in organisations and communities, we will be unable to exploit this valuable resource. In so doing, we are not recognising, appreciating or developing individuals, organisations or communities to their full potential. It is of utmost importance that the intellectual resources of individuals and groups within an organisation are controlled and channelled. If knowledge stays the property of one individual or even one group of individuals, knowledge as a resource is lost to an organisation (Robbins, 2003). The knowledge needs to be disseminated in order to thrive, and this can only be attained through the effective management of knowledge.

Knowledge management is not only important in terms of organising the clutter created by an abundance of available knowledge, or to fully exploit the intellectual resources of employees or the organisation as a whole, but there is also many other

benefits for the organisation or institution that is willing and able to manage knowledge on a continuous basis. Some of these advantages are described below:

- By managing knowledge, organisations can improve their efficiency, make individuals learn more effectively, provide a better foundation for decision making, improve communication and enhance synergy between staff members, which in turn improves the organisations performance (Roelof, 1999)

- The management of knowledge will enable individuals in organisations to be aware of what others are doing, inside and outside the organisation, enabling them to learn from others. Such a system, where individuals are aware of what their colleagues are doing, will ensure that resources are not wasted because of repeated mistakes and the duplication of projects. By making the information and knowledge available at all levels and across organisational boundaries, existing barriers that hamper the effectiveness of these organisations are broken down (Hinds & Kiesler, 1995).

- Knowledge management also leads to a democratisation of the workplace, which fosters a greater feeling of common purpose and lead to more collaboration (Robertson, 2002).

- In a social environment, as will be discussed in more detail later in the paper, the management of knowledge is an effective strategy to improve the services rendered to people and consequently improving their quality of life.

Many organisations have already adopted a knowledge management approach. At a macroeconomic level Carrillo (2002) indicates that major international agencies such as the World Bank, the UNO, the OCDE as well as regional development institutions like the European Commission and the Commonwealth, have adopted knowledge management frameworks. At a microeconomic level, an increasing number of organisations and institutions are engaging in serious efforts to capitalise on their knowledge base. A study by the Delphi Consulting Group Inc., which included 36

vendors and 650 evaluators and users of knowledge management solutions, revealed that 28 percent of companies were currently using some form of knowledge management and a further 70 percent anticipated using it within the next four years. Therefore, knowledge management applications and solutions could be expected to escalate in numbers over the next four years.

In summary, the rationale for knowledge management is to improve the value-generation capacity of individuals, groups and organisations in order to improve the performance of the organisation as a whole.

CHAPTER 4

A GENERIC MODEL FOR KNOWLEDGE MANAGEMENT

4.1 INTRODUCTION

In an attempt to understand knowledge management, practitioners and academics have developed various models and techniques that can be utilised to manage knowledge. A comprehensive literature review revealed, that while different approaches focus on different aspects of knowledge management, the underlying principles associated with the management of knowledge are quite similar.

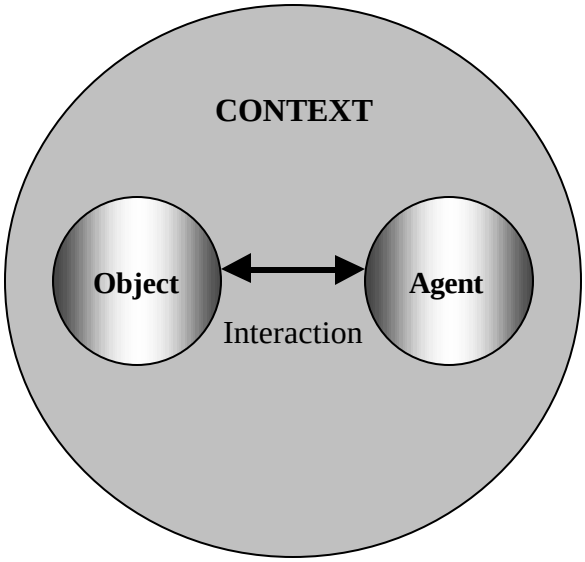
The quest for a generic knowledge management model, which could be applied in a more social context, commences with the subsequent discussion of a "knowledge event" and the elements that constitute this knowledge event. This model will then be systematically expanded to indicate how the knowledge event can be described in terms of various knowledge management processes.

4.2 THE KNOWLEDGE EVENT

Carrillo (2002) indicates that, in a simplified sense, knowledge management can be broken down into four elements: an ***object*** and an ***agent***, which ***interacts*** with one another within a specific ***context***. This relationship is displayed in figure 4.

Figure 4

The knowledge event



The **knowledge object** in this model refers to the person or process that is in need of knowledge, the "place" in the organisation where the knowledge gap exists.

The **knowledge agent** can be described as the entity that knows. According to Carrillo these agents can be human individuals or groups, and possibly animals, automata and even extraterrestrial life forms. Within the context of this dissertation, the knowledge agents can be described as the individuals, groups, departments or organisations that possess some kind of knowledge.

Interaction refers to the active participation of both the knowledge object and the knowledge agent. This implies that the agent and object need to be connected to each other in some way and cooperate to achieve a common goal.

The **knowledge context** provides the significance to the situation or in this case gives meaning to the interaction. The context determines a specific agent/object interaction from an infinite number of possibilities.

Carrillo further stipulates that the three elements (object, agent and context) should all be “process capable”. That is, have the qualities that enable a particular knowledge connection to occur. For example, all objects must be perceivable; all agents must be active and all contexts must be discernible. In essence, it means that agents and objects in the system need to be identified and aligned with each other in a specific context. The subsequent section will describe how the interaction between the object and the agent leads to a change in the object.

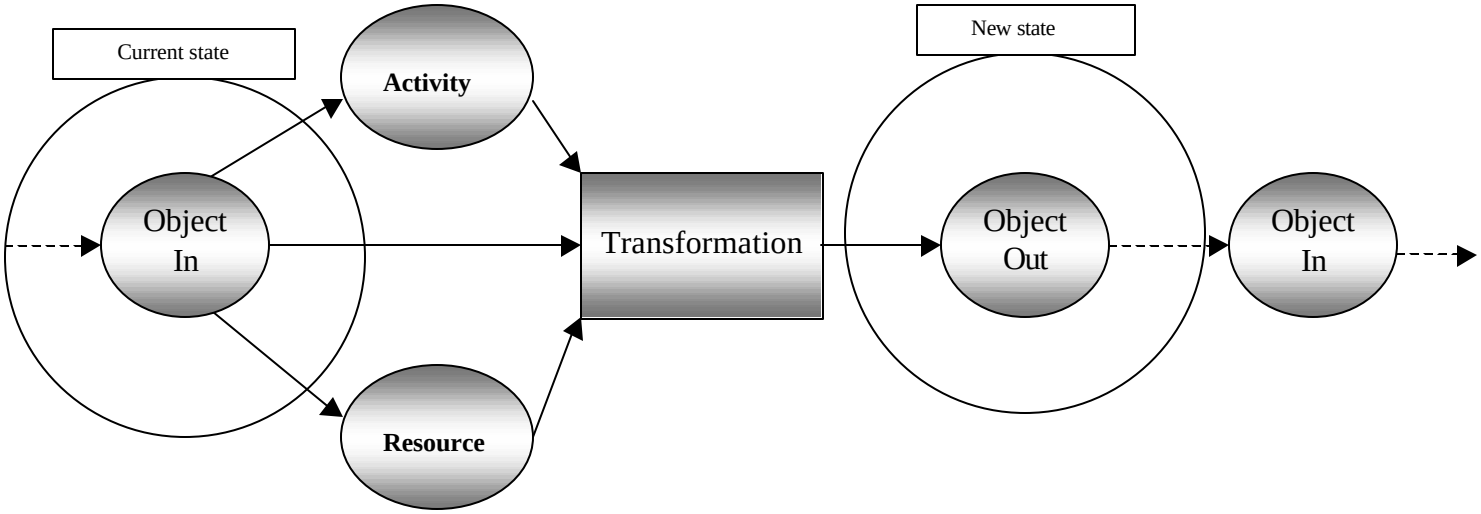
4.3 THE TRANSFORMATION OF THE OBJECT

The knowledge event is characterised by the interaction between an object and an agent within a specific context. However, interaction between the object and the agent alone is not sufficient to ensure the improvement or dissemination of knowledge. It is therefore necessary that the state of the current knowledge should be transformed during this interaction. Zack, Smith and Slusher (1999) refer to this as the dynamism of knowledge that enables knowledge to transform as required by changes in the environment. The various components of the knowledge event and the interaction between them that should lead to the transformation of knowledge are depicted in figure 5.

The **current state** refers to the existing knowledge status or knowledge base in an organisation. Within this model the **object-in** can be any person or process in an organisation that is in need of knowledge. The knowledge gap or lack of knowledge within the object forms part of the current knowledge state. The current knowledge state is therefore inadequate to deal with current challenges or situations. It is this knowledge gap, or lack of knowledge within the object, that initiates the entire knowledge transformation process. The process is initiated when a specific knowledge need in an object (individual, department or process) is recognised or identified. The need may be either obvious or implicit.

Figure 5

The transformation of the object



The **resource** in this model is similar to the agent in Figure 4, and refers to the entity that knows. Therefore, the resource can be any person, group of people or an entire organisation that possesses the relevant knowledge required by the object. The resource has the ability to change the current knowledge state by transferring the necessary knowledge to the object. The interaction (figure 4) between the object (entity in need of knowledge) and the resource (agent or entity who possesses the knowledge) can be seen as a sequence of tasks or the **activity** between the object and the resource. According to Abou-Zeid (2002) the agent in this context is an active or responsive actor performing a specific action. The purpose of the activity between the object and the resource, or agent, is the **transformation** of the knowledge state of the object. The transformation takes place through various actions or tasks that are being carried out with the assistance of the resources. The transformation produces the **object-out** (object-in with additional knowledge) and forms part of the new knowledge state. Ljungberg (2002) describes the object-out as the *result* of the transformation. In order for the transformation to be successful and valuable, the object-out has to possess the knowledge that was identified as a deficiency in the object-in. The object-out becomes the object-in of the next process of knowledge transformation when a new knowledge deficiency is identified in the object.

The fact that the object-in triggers the transformation through the identification of a specific knowledge need, and the fact that a successful transformation of the knowledge-state will satisfy the identified knowledge deficiency, implies that knowledge management is the response to an identified knowledge-need (Van Baalen & Hoogendoorn, 1999). Therefore, the implied purpose of knowledge management is to satisfy an existing knowledge deficiency or knowledge need. In order to completely understand how the above-mentioned knowledge transformation phase relates to the overall process of knowledge management, it is necessary to investigate the current and future state of knowledge as depicted in figure 5.

4.4 THE CURRENT- AND FUTURE STATE OF KNOWLEDGE

The current state of knowledge as depicted in figure 5, is characterised by a knowledge deficiency or knowledge need. The purpose of the transformation is to contribute knowledge and change the existing knowledge state. The new "knowledge-state" possesses additional knowledge and the knowledge deficiency that was identified in the "current knowledge state" is filled. The subsequent section describes the current, as well as the future state of the knowledge in more detail, in order to create an all-inclusive view of the knowledge event.

4.4.1 Current state of knowledge

A vital component that forms part of the current state of knowledge as displayed in figure 5, is the recognition that knowledge is a valuable resource that should be protected and preserved (Laszlo & Laszlo, 2002). This realisation initiates the process of knowledge management. Therefore, the first step for organisations and institutions that do not value their knowledge as a strategic resource, is to alter their perception regarding the knowledge in their organisation. If knowledge is not perceived as valuable, the management thereof seems rather meaningless. Every employee as well as all other stakeholders, should be made aware that knowledge is a communal asset that should be valued and protected (Rowley, 1999).

The depletion of knowledge as a resource is the derivation for knowledge management. However, knowledge as a resource is different from other resources found in organisations, which is one of the reasons why the management thereof is problematic. Clarke (2001) indicates that knowledge as a resource causes great confusion for managers and economists, since it increases with use rather than decreases. It is this characteristic, that knowledge provides increasing returns as it is used, that distinguishes it from other resources, e.g. physical goods, that provides decreasing returns as it is used. The more knowledge is used the more valuable it becomes, creating a self-reinforcing cycle (Clarke, 2001).

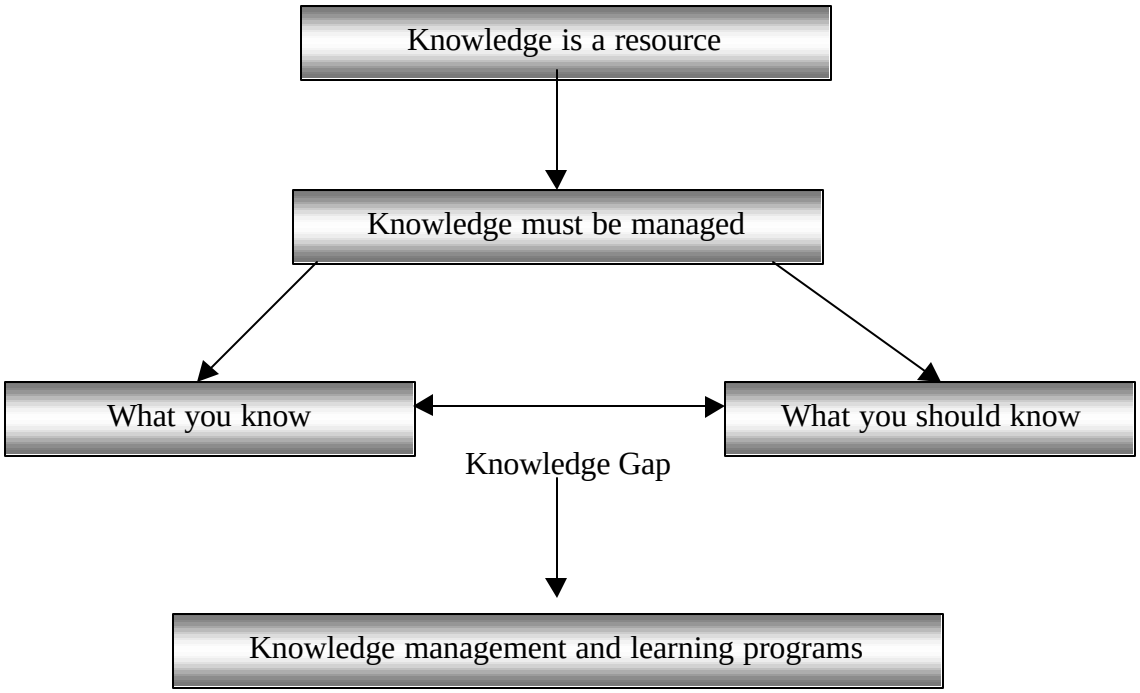
It is therefore imperative that businesses, organisations and institutions recognise the value of knowledge and the subsequent need to manage knowledge. Fortunately, an increasing number of organisations and institutions realise that knowledge is probably the most important resource they have, and consequently improving their knowledge base is the most important capability that the organisation posses. Zack (1999) states:

> Business organisations are coming to the view that knowledge is their most valuable strategic resource, and bringing that knowledge to bear on problems and opportunities is their most important capability. They are realising that to remain competitive, they must explicitly manage their intellectual resources and capabilities. Intuitively, it makes sense that the firm that knows more about its customers, products, technologies and markets should perform better. However, the link between knowledge management and business strategy, while often talked about, has been widely ignored.

As soon as knowledge is viewed as a resource the process of knowledge management can commence, as displayed in figure 6.

Figure 6

Current state of knowledge



As soon as knowledge is viewed as a resource that should be protected and improved, the need for the management of knowledge arise. Therefore, knowledge management commences with the realisation that there is a gap between what we as an individual, department, organisation or institution know and that which we should know. This can also be true for a whole society.

Clarke (2001) indicates that the disparity between what we know and what we should know, is the result of two different but accompanying conditions. That which we should know can fall into two categories. The first type of knowledge gap is caused by a lack of new knowledge. In this instance, the organisation is in need of new knowledge that does not form part of the existing knowledge base of the organisation. The second type of knowledge gap is caused by the loss of knowledge that was part of the knowledge base at one point or another. Since the knowledge in the organisation has not been management effectively, this knowledge has subsequently been lost.

Irrespective of whether we want to obtain “new” knowledge or regain “old” knowledge that has been lost, additional knowledge needs to be “inserted” into the

system. This is accomplished through the implementation of knowledge management and learning programs. To adequately fill these knowledge gaps, the knowledge management and learning programs should be purposefully constructed to fill the knowledge gaps that were originally identified (Starbuch, 1993).

4.4.2 Future state of knowledge

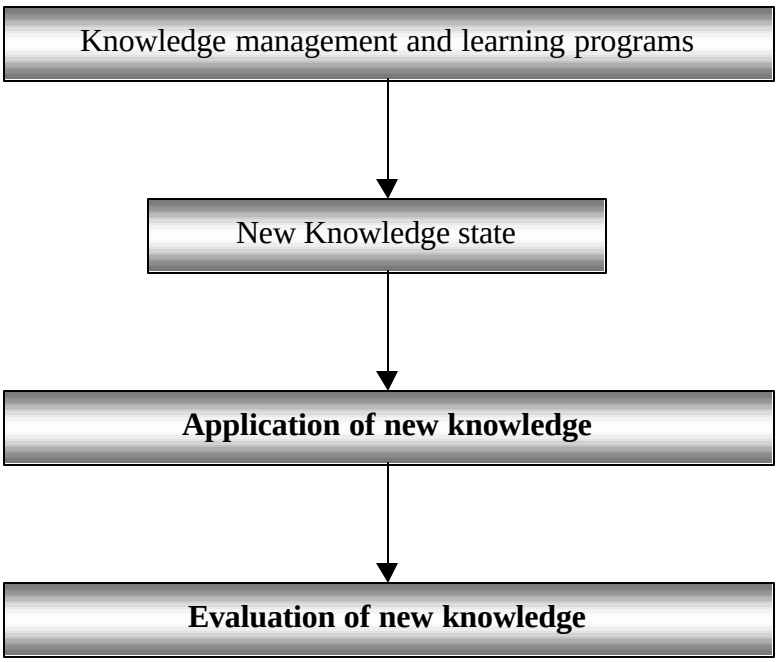
Lets assume for a moment that the above-mentioned knowledge management and learning programs were successful. This implies that a specific individual, organisation or institution were able to fill the knowledge gap that existed in the individual, group or organisation by implementing some form of learning or knowledge management intervention. This intervention changes the knowledge state of the individual, organisation or institution and we can therefore assume that we are dealing with a new knowledge state or the future state of knowledge. However, for the new knowledge state to be of any value, two additional phases namely knowledge application and knowledge evaluation needs to be implemented, as displayed by figure 7.

The term “new knowledge state” is purposefully being used instead of “new knowledge”. Conceptually it would be incorrect to refer to “new knowledge” at this point. At this stage the knowledge state has changed only as a result of additional information being added to the current knowledge system. The transformation of the information into knowledge, as discussed in chapter 2, can only occur when the new information is applied in a specific context or to a specific problem (Finerty, 1997). The application of this information will transform the information into tangible and measurable new knowledge.

The application of knowledge is therefore vital for two reasons and can ultimately render knowledge management and learning programs obsolete if it is not adhered to (Von Krogh & Nonaka, 2000). Firstly, the application of knowledge is a necessary step to change information into knowledge. Secondly, the application of knowledge is necessary to enable the evaluation of the new knowledge state.

Figure 7

Future knowledge state



Von Krogh and Nonaka (2000) emphasise that the evaluation of new knowledge is just as important if not more so, than the application of new knowledge. As mentioned earlier, the implementation of knowledge management is aimed at achieving a specific knowledge goal, i.e. addressing a specific knowledge gap that exists. To ensure that the knowledge-gap has successfully been filled, it is imperative that the new knowledge state, as well as the process of knowledge management, should be evaluated. Not only is evaluation necessary to assess the new knowledge state, but also to inform the next knowledge management objective. If the knowledge management initiative was successful, that which is known changes, the knowledge-gap is reduced and subsequent knowledge management programs need to be adjusted. Without the valuable information gained by evaluating the new knowledge, the subsequent knowledge management programs cannot be successfully adapted to be consistent with the new knowledge state.

4.5 A GENERIC MODEL FOR KNOWLEDGE MANAGEMENT

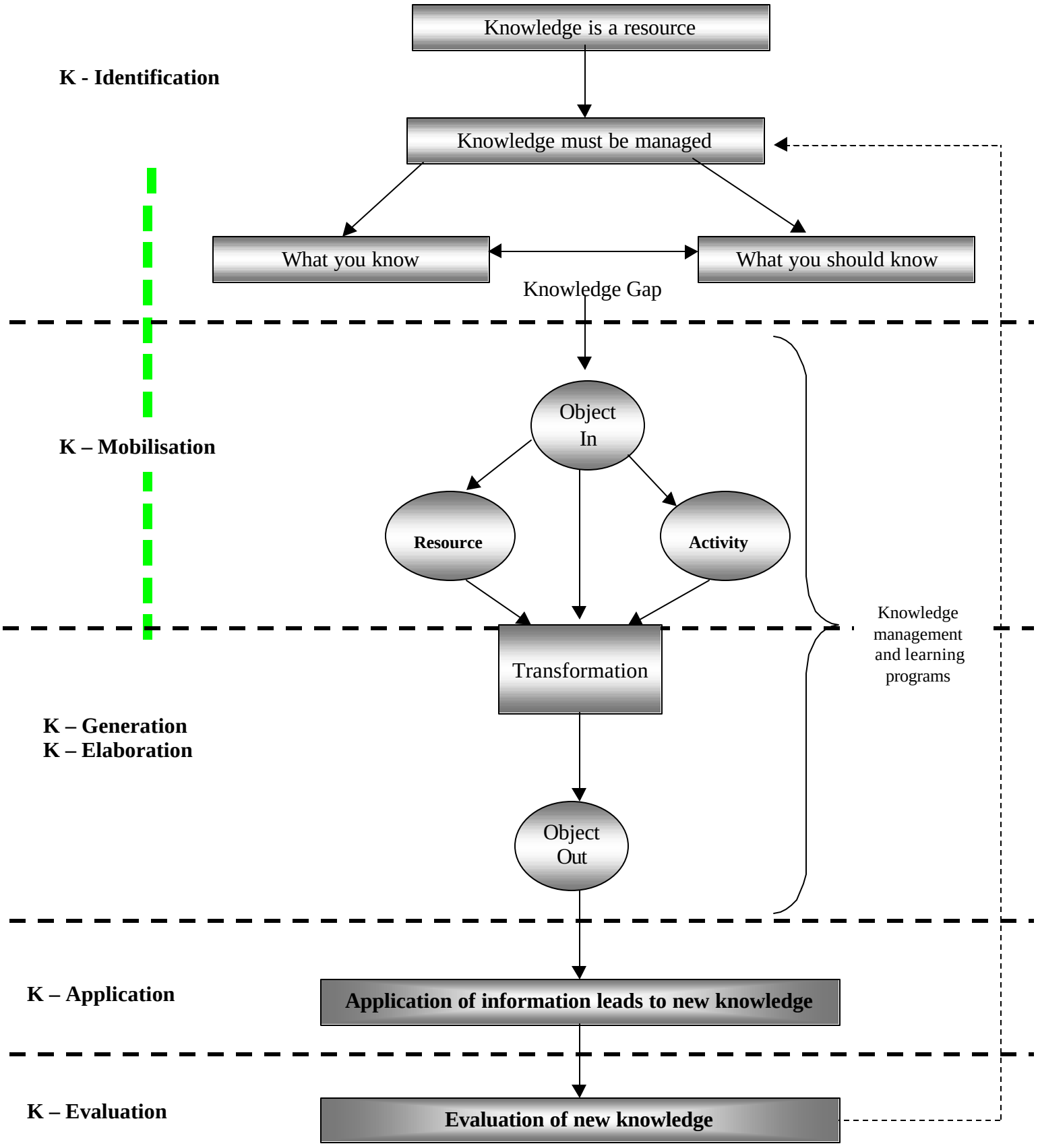
The preceding sections described the transformation of the object (figure 5), the current state of the knowledge (figure 6), as well as the new knowledge state (figure 7). Combining these three models produces a generic knowledge management model as seen in figure 8. This new model becomes the foundation and the framework from which knowledge management will be discussed in the subsequent chapters.

The model indicates that when knowledge is seen as a resource, the knowledge management process is initiated by the realisation that this resource has to be managed. This is followed by the identification of that which is known and that which should be known to improve an existing condition or address a specific problem. As explained earlier, the object-in within this model, refers to the person or process that is in need of the knowledge, the "place" in the organisation where the knowledge gap exists.

The knowledge gap, i.e. the person, procedure or program that is in need of the knowledge, consequently initiates the transformation process. The resource is the person who knows, while the activity represents the interaction between the entity that has the knowledge and the entity that requires the knowledge. The interaction between the two entities should lead to a transformation in the "knowledge-state" because of the transference of information (substance being transferred) from one entity to another. The transformation leads to a new "knowledge-state" or the object-out. The new information, when applied by the knowledge recipient, is transformed into knowledge.

Figure 8

Generic knowledge management model



The new knowledge and its application are then evaluated and the result of this evaluation informs the next knowledge management process. The evaluation ensures that subsequent knowledge management applications can be successfully amended and improved to correspond to the new knowledge state. The horizontal dotted lines in figure 8, indicate that knowledge management in an organisation or institution can be broken down into five broad processes namely, knowledge identification, knowledge mobilisation, knowledge generation or knowledge elaboration, knowledge application and knowledge evaluation. These processes will be discussed in the subsequent section.

4.6 THE PROCESS OF KNOWLEDGE MANAGEMENT

4.6.1 Introduction

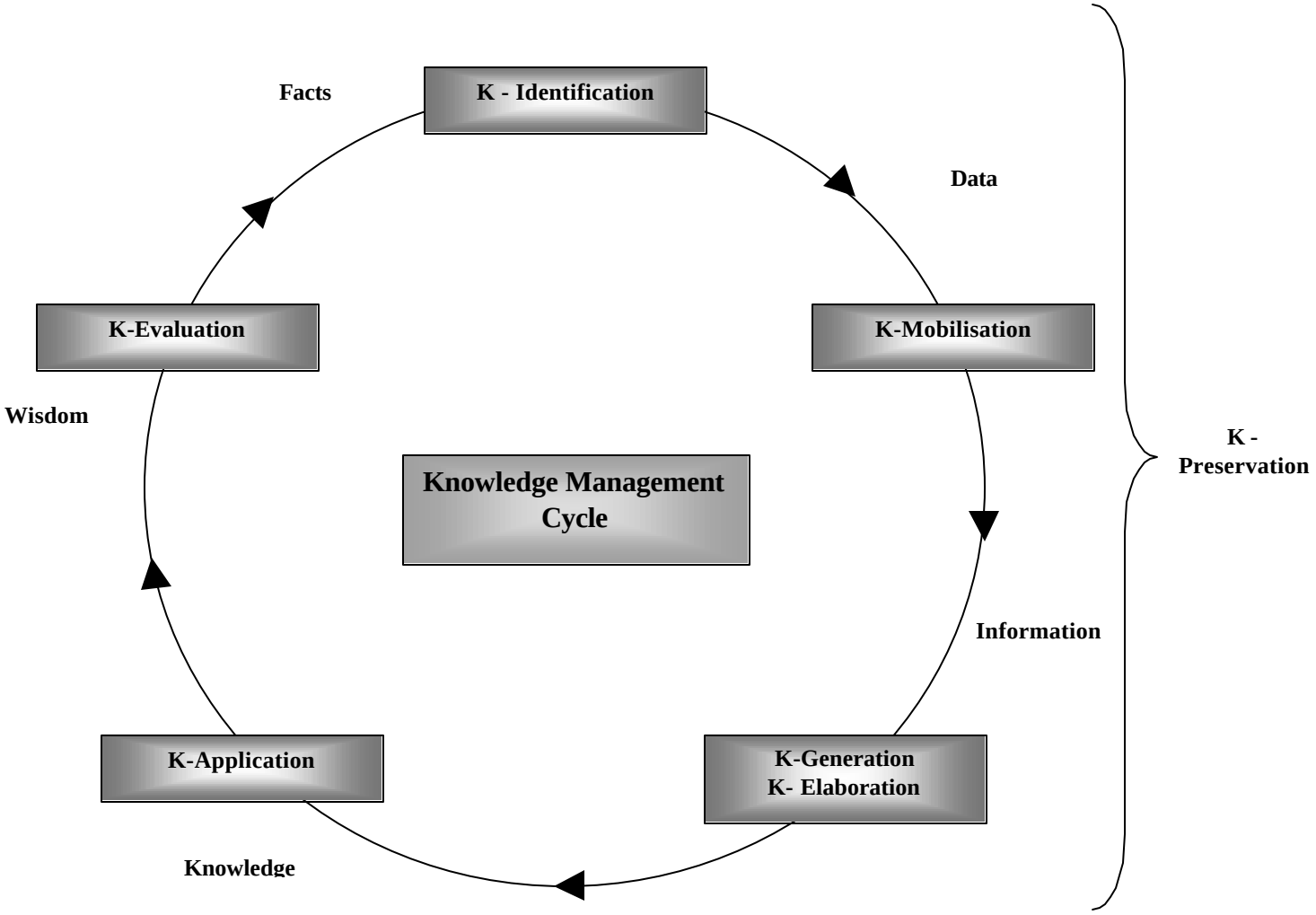
As figure 9 indicates, knowledge management can be divided into five broad processes. These processes have been identified by various authors (Firestone, 1999; Nissen, Kamel, & Sengupta, 2000; Nonaka & Takeuchi, 1995; Probst, Raub, & Romhardt, 2000; & Zack, 1999). The subsequent section will describe these five processes and how the concept of knowledge preservation relates to these processes.

4.6.2 Knowledge identification

Knowledge identification includes all the activities through which the organisation creates an awareness that knowledge is an important resource. It is this awareness that ultimately leads to the realisation that knowledge should be managed. The current state of the knowledge in the organisation are then compared to the desired state of knowledge or that which the organisation should know, and through this process the knowledge gap is identified. Zack (1999) proposes that an organisation must on the basis of existing accumulated knowledge, articulate its strategic intent, then identify the knowledge required to execute its intended strategy, and compare that with its actual knowledge, revealing strategic knowledge gaps.

Figure 9

The knowledge management cycle



However, the knowledge identification process goes further than the mere identification of knowledge gaps. In addition, it is imperative that the individual or department that lacks the knowledge, as well as the resource or the person who posses the knowledge, are identified. According to Senge (1990) the realisation that existing knowledge should be updated, should be concurrent with the identification of where the knowledge gap exists, as well as the identification of the resource or the most suitable provider of the knowledge. This knowledge resource can either be an internal source, i.e. a colleague, supervisor or manager, or the resource can be of an external nature, i.e. consultants, experts or academics that do not form part of the daily operations of the organisation.

The identification of knowledge gaps, the intended knowledge recipient, as well as the knowledge resource or knowledge bearer, is a vital first step to initiate the entire knowledge management programme. Without this initial step, the effective management of knowledge becomes, at best, inefficient and undirected, at worst, impossible. Without accurately identifying the knowledge recipient, as well as the most appropriate knowledge bearer, it could lead to a situation where either the wrong individuals receive the knowledge or the intended recipient receives inadequate knowledge.

4.6.3 Knowledge mobilisation

According to Abou-Zeid (2002) knowledge mobilisation means increasing the visibility of knowledge by sharing it or transferring it from one bearer (the knowledge provider or owner) to another (the knowledge recipient or seeker). The way in which the transfer occurs, depends on the type of knowledge that needs to be transferred as well as the characteristics of the knowledge bearer and the knowledge recipient. Although the methods of knowledge transfer will be specific in terms of the situation, the essence of knowledge mobilisation remains the same, i.e. the sharing of knowledge to increase the visibility of knowledge and expand the knowledge base of the recipient.

4.6.4 Knowledge generation and knowledge elaboration

Knowledge generation and knowledge elaboration occurs simultaneously, in relation to the other processes, however, the difference between these two concepts should be elaborated upon. Knowledge *generation* refers to conditions where there is a need to generate or create *new* knowledge to address a *new* problem or challenge. Knowledge *elaboration* on the other hand, refers to the refining of new or existing knowledge (Cook & Brown, 1999). Where knowledge generation focuses on the creation of new knowledge, knowledge elaboration refers to the improvement and enhancement of knowledge that is already available in the system.

4.6.5 Knowledge application

The application of new knowledge, whether it was newly generated or merely improved, is of utmost importance if the new knowledge is to be integrated and instilled in the knowledge recipient. Application of knowledge ensures that the new knowledge becomes integrated into the system and becomes and integral part of the daily functioning of the person, department or organisation.

4.6.6 Knowledge evaluation

Knowledge evaluation is not only the last step in the knowledge management process, but also becomes the first step in the new knowledge management cycle, as indicated by figure 9. Knowledge evaluation consists of all the activities used to measure the newly created knowledge and subsequently determines the value of the knowledge management process. The evaluation phase appraises the process to date and determines the value of the entire knowledge management process. The results from the evaluation are then used to modify the subsequent knowledge management process and improve the overall value of the knowledge management initiative. This final step could be described as the gaining of wisdom (Bloom, 1956).

4.6.7 Knowledge preservation

Knowledge preservation is not included in the knowledge management cycle as a specific process occurring at a specific time, since the preservation of knowledge can and should be done continuously. Not only should existing and new knowledge be preserved to avoid the loss of this knowledge in the future, but the entire process, from knowledge identification through to knowledge evaluation, should also be documented and preserved. The preservation of knowledge should be viewed as a facilitator that could assist future knowledge management endeavours. By continuously preserving these processes, an up-to-date record is available that could facilitate future decisions related to the knowledge management program.

4.6.9 In conclusion

As soon as knowledge is viewed as a strategic resource of the organisation or institution, and learning recognised as the most important capability of individuals, organisations and communities, it creates the gateway through which knowledge management can enter. The management of knowledge commences with the realisation that on the one hand, there are things that the individual, organisation or community knows, and on the other hand, there are things that the individual, organisation or community should know. The knowledge gap is then eliminated by mobilising knowledge in the organisation, which leads to the generation of a new knowledge-state or refining of the exiting knowledge-state. The application of the knowledge ensures that knowledge becomes an integral part of the system. The evaluation of knowledge determines the value of the knowledge management process and informs the adaptation of the knowledge management process.

Until now, knowledge management has been described in terms of various approaches found in the business or corporate environment. However, the aim of this dissertation is to indicate that knowledge management, as a concept, is generic enough to be applied in a social context as described in chapter one. The subsequent chapter will therefore discuss knowledge management and its application within a social context.

CHAPTER 5
KNOWLEDGE MANAGEMENT IN SOCIAL SETTINGS

5.1 INTRODUCTION

Society has always been driven by the search for new knowledge that would guide improvements. Our ancestors found, that instead of daily foraging for fruits and other plants to eat, we could grow our own crops and eliminate long journeys to collect food. Instead of hunting and running the risk of being killed, we could domesticate certain animals and have enough meat readily available for our consumption. During the industrial era we realised that we could build machines that could take over some of our duties and make our lives a little easier.

At present, there is a revolution in terms of knowledge. While knowledge was previously the driving force that facilitated improvements in society, knowledge itself has become the "thing" that needs to be improved. Knowledge is no longer necessary for the sake of improvements alone, but knowledge itself has become the object that needs to be improved.

Knowledge management was primarily developed in a corporate environment and is still predominantly applied within large corporate organisations. In recent times however, there has been a shift in the perceptions of individuals and organisation as they realised that knowledge management could be utilised in organisations and institutions with a more social nature. Carrillo (1999) points out that the knowledge management movement evolved from a "dispersion" (being widely spread and distributed) to a "contraction" (reduction and narrowing of use) to an "institutionalisation" (established as an integral part of management) phase. As this happened, knowledge management found application opportunities in areas such as education, government, international agencies, NGO's and other major types of

human organisations.

The following chapter will describe how corporate-based knowledge management methods can be effectively applied in a more social setting or environment. In a social context, the primary objective of knowledge management is not to gain a competitive advantage over ones competitors or to increase profits, but to improve the lives of people that form part of the larger societal system.

5.2 RATIONALE FOR KNOWLEDGE MANAGEMENT IN A SOCIAL SETTING

There are various reasons why effective knowledge management in a social context could be of value to individuals, groups and organisations in a specific community. Knowledge management is ultimately a social endeavour and knowledge remains a resource that can be utilised to drive improvements. The subsequent section discusses the most pertinent reasons why knowledge management could be effectively applied in a social context.

5.2.1 Knowledge management as a social endeavour

Knowledge or knowing in its broadest sense, is a social activity that usually takes place in a specific social setting or social system. Rural communities, as well as government departments active in these communities, are in a certain way knowledge institutions. These communities and government departments are repositories and reservoirs of knowledge, as they contain numerous sources of information and knowledge. Since knowing is a social activity and since communities can be seen as knowledge repositories, the management of knowledge in a social environment should occur fairly naturally.

5.2.2 Knowledge remains a resource

For social communities, as for all corporate organisations, knowledge remains an important resource. Knowledge is an important resource for individuals and groups in these communities and also for government departments that form an integral part of these communities. In order to expand the knowledge base of individuals, government departments and communities as a whole, these entities should be made aware that knowledge is a resource that should be protected and utilised more effectively. In addition, these entities should be actively encouraged and rewarded to use and expand their knowledge base.

Learning from each other, and learning together as a group, department or community, is an important capability that exists within each individual, group, department or community. Learning from and together with one another through the sharing of knowledge, can only be achieved when a sound knowledge management strategy is implemented.

Individual community members, as well as government departments, have the capacity to generate new knowledge and to apply this new knowledge to improve their immediate environment and the entire society. Unfortunately, the same individuals or departments also have the capacity to lose knowledge and subsequently reduce this valuable resource. For existing and new knowledge to be captured and used, it must be integrated into the entire system and transferred to all members within the system, and this requires the implementation of an effective knowledge management strategy. Mazur and Titilola (1992) point out that when knowledge in a community is expanded and protected, knowledge evolves to the extent that it becomes a competency and ability imbedded in the individuals and organisations utilising the knowledge. Knowledge can then be applied innovatively to current problems, since any outcome, whether positive or negative, only adds to the knowledge base of individuals or communities. The aim of diversifying and improving ones knowledge base, is to ultimately improve certain conditions and find solutions to problems in the organisation or community.

5.2.3 Knowledge management drives improvements

To the extent that problems in rural communities are related to the lack of knowledge or the ineffective mobilisation of knowledge, it stands to reason that the efficient management of knowledge and knowledge resources, is an effective way to address knowledge related problems. Individual members, groups and organisations that form part of the community, as well as individuals, groups and organisations outside the community, possess the knowledge that could lead to improvements in the community. In order to drive improvements and find more effective ways of functioning, the knowledge of these individuals, groups and organisations should be tapped and utilised. This will ensure that societal learning takes place, which could lead to improvements of current knowledge related problems. If problems experienced in rural communities are the result of ineffective knowledge management, it is imperative that knowledge management should form part of the strategy to improve the current conditions and problems faced by the community.

5.2.4 Knowledge management improves cooperation

Knowledge management is vital for the coordination of complex activities, especially when such activities involve the collaboration between various departments and various individuals within these departments. Knowledge management implies that individuals, groups and departments share their knowledge and experiences, avoiding the preverbal re-inventing of the wheel when problems arise. When ideas, models and solutions for problems are shared, people develop a sense of cohesion and focus on attaining mutual goals. The processes and structures that are implemented to effectively manage knowledge, will in addition, facilitate the cooperation and collaboration between individuals, groups and departments that participate in the knowledge management initiative. Knowledge management can therefore be an effective tool to increase collaboration between various entities, and is an essential addition to any system in which collaboration do not occur.

5.2.5 Knowledge management is necessary for societal learning

Individuals who form part of a social system, learn the majority of what they need to know, on a daily or habitual basis. The educational system within these communities provide formal education, but most of the knowledge about the community, the members in the community and how the community functions, occurs outside the formal education system. Individuals obtain this information through socialisation with their parents, peers, extended family and other members of the community. However, to develop and grow as a community involves more than mere learning on a day-to-day basis.

If the knowledge base of the community remains unchanged; i.e. no new knowledge is added and integrated into the system; the possibility of improving the system becomes limited. Not only should existing knowledge be refined and new knowledge added to the system, but existing knowledge should also be collected, protected and conserved.

Laszlo and Laszlo (2002) state that, according to history however, there are neither sufficient learning from past experiences, nor sufficient preservation of vital knowledge from the present, for societies to evolve purposefully. Therefore, the challenges for knowledge management in these communities are fourfold:

- To supplement the existing knowledge-base with new knowledge;
- To ensure that old and new knowledge is disseminated through the system;
- To facilitate adequate learning from past experiences; and
- To preserve existing knowledge for later use.

Knowledge management strategies, which addresses all four these objectives, could ensure that societal learning takes place. When community learning takes place, it increases the personal well being of individuals, facilitates the effective and efficient functioning of the community, and subsequently ensures the sustainability of the community. The community is then transformed into, what Laszlo (2001) refers to as, an “evolutionary learning community”. This is a community that provides learning

environments where people can learn together about the interconnected nature of the world, the ecological and social impact of our individual and collective choices and the joy of finding a meaningful way to contribute to the emergence of sustainable and evolutionary futures (Laszlo, 2001).

Knowledge management in a social environment could create an ethos that encourages people to share knowledge and learn from each other. When the community continuously evolves through learning, new meaning and understanding is created in terms of who we are, how we relate to each other and what the needs of specific people within the community is. Not only will there be a better understanding of needs in the community, but lifelong learning and development through knowledge management could also ensure that proactive steps are taken to meet these needs.

5.2.6 In conclusion

From the above it is clear that knowledge management can have an impact on many areas in communities. If problems and challenges in a community are related to knowledge or the management thereof, investments and development programs should be coupled with some form of knowledge management. In such situations it is imperative to institute a dynamic knowledge management system that will connect all parties involved and facilitate learning in the community. A culture of learning and knowledge dissemination should be integrated into the daily activities of community members, as well as government employees, creating conditions that enhances cooperation between individuals and groups and ensures the effective dissemination and utilisation of knowledge.

Knowledge management can increase the cooperation between all stakeholders in a community. This type of integration and cooperative use of resources, can be the catalyst that will propel communities into a new phase of development. In addition, knowledge management will facilitate the subjective understanding of the roles and responsibilities various entities have in terms of community learning. The improved understanding of these obligations will subsequently facilitate the cultivation of a

sustainable quality of life.

5.3 APPLYING KNOWLEDGE MANAGEMENT IN A SOCIAL SETTING

5.3.1 Introduction

Although knowledge management is primarily a corporate tool, each social system has some form of knowledge acquisition. The knowledge acquisition is embedded in the system and contributes to the understanding of how the system as a whole, and members within the system function (Mazur & Titilola, 1992). Although information and knowledge are increasingly being viewed as an important aspect in the social sciences, there is a lack of understanding of the constitution of knowledge in social systems. Our discussion therefore commences with an explanation of how knowledge is created in a social system.

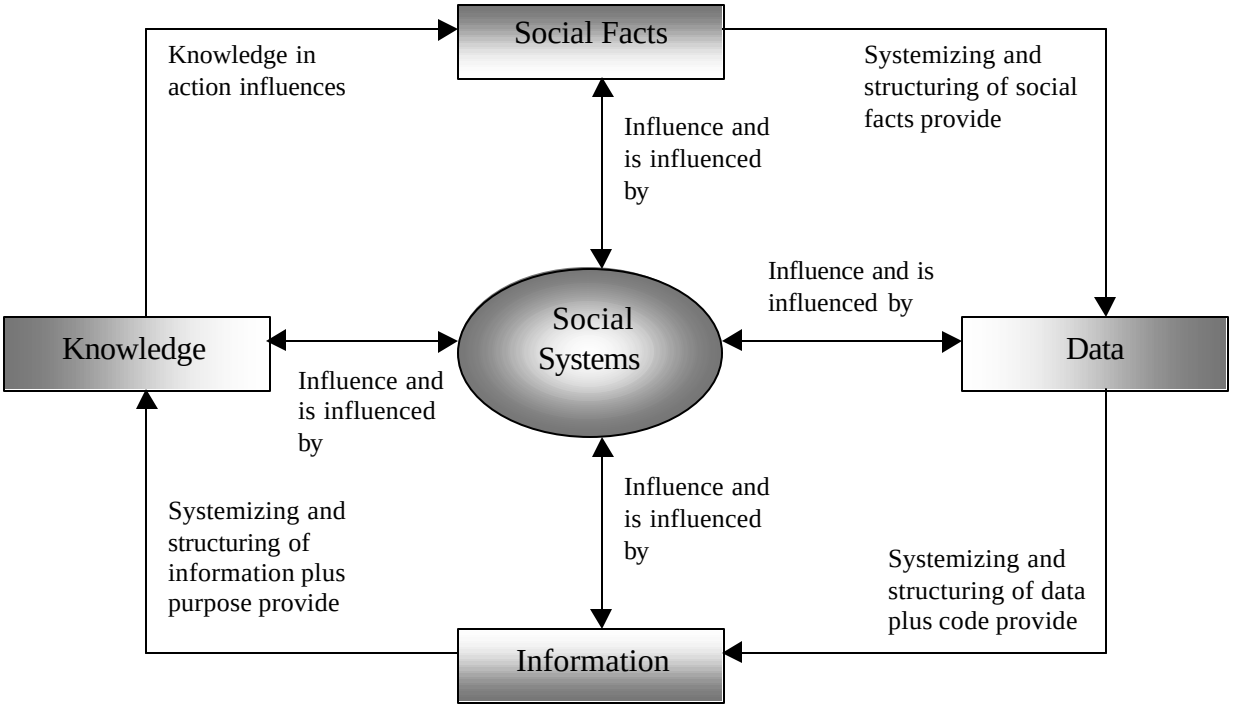
5.3.2 Knowledge creation in social systems

The transference of social facts to knowledge, as described in chapter two, forms the basis of social knowledge creation. The transference of social facts to knowledge is displayed in figure 10.

Social facts exist within a social system, independent from whether we are aware of them or not and independent of whether we are studying these facts or not. These social facts influence the social system and are influenced by the social system. When these facts are recognised, studied and structured it is turned into data. The data is selectively extracted from the system and are therefore abstractions of the facts available in the system. The systemisation of, and interpretation of data within a specific context, transforms the data into information. The structuring and application of this information to attain a specific goal leads to the creation of knowledge.

Figure 10

Knowledge creation in social systems



Source: Johannessen, Olaisen & Olsen (2002)

In addition, figure 10 indicates that the process of converting social facts into knowledge is a cyclical process, where the social facts are converted to knowledge and the "new knowledge" subsequently influences the existing social facts. This is the premise that will be followed throughout the dissertation; a change in the knowledge-state, whether positive or negative, could and in fact should have an influence on the existing facts in the system. Therefore, knowledge shouldn't be changed for the sake of changing knowledge, but with a robust and focussed rationale that motivates a change in the knowledge-state. The subsequent section firstly defines what is meant by social knowledge systems and then continues with an explanation of how such a system should be managed.

5.3.3 Defining social knowledge systems

The social knowledge system that exists within a specific community is referred to by Warren and Cashman (1988) as the sum of experiences and knowledge for any given group, which forms the basis of decision making, with regard to familiar and unfamiliar problems and challenges. Breemer (1989) refers to local knowledge systems as:

> The conceptual system in which individual members of society have learned to think, and in terms of which they imperceptibly interpret their society and environment.

The specific social knowledge systems that exist in a specific community are therefore the collection of experiences, skills, understanding and insight of people in the community. The collection of knowledge relates to their specific way of life and the associated challenges community members face on a day-to-day basis. Knowledge is acquired by the local residents through the daily interaction with other members in the system and the macro environment in which they function.

The social system through which knowledge is disseminated is therefore already in place, and are continuously engaged in the transfer of knowledge. The aim of this dissertation is to indicate that first of all, there isn't sufficient information and knowledge available in the social system (rural community) and secondly, that the available knowledge isn't effectively disseminated. Although the social system in rural communities is able to create and disseminate knowledge, this is not done effectively. A more structured approach is needed to enhance the knowledge creation and dissemination.

This structured approach is the implementation of a sound knowledge management strategy that would contribute to the current social knowledge system and enhance the creation and utilisation of knowledge in the community.

5.3.4 Managing social knowledge systems

Since the local knowledge system in any particular community, is a rich source of knowledge, it faces the same challenges faced by any corporate organisation. If knowledge is not effectively managed, it can result in a loss of knowledge. This may lead to the loss of valuable experience and insights of people in the community. The local knowledge that exists within individuals, groups or organisations is an intellectual resource that can ultimately assist in improving local conditions. This intellectual resource has been accumulated by individuals and groups through their daily experiences in dealing with local conditions and challenges.

Mazur and Titilola (1992) point out that, if knowledge is effectively managed within a social knowledge system, it could lead to the adaptation of techniques and methods, which can be interpreted as new knowledge. The new knowledge should be shared with other individuals and groups in the system, who might benefit from the new knowledge. In a recent project the author was involved in, a provincial government department developed a questionnaire without any inputs from the research agency that was responsible for the analysis of the data. In retrospect, the department indicated that they had to work in closer collaboration with the researchers, since some elementary mistakes in the development and structure of the questionnaire caused that thousands of responses couldn't be used. Unfortunately, only a small number of the personnel from the department gained the new knowledge that closer collaboration between the research agency and the recipients of the research is necessary for designing an effective survey instrument. This is valuable knowledge gained, but regrettably will only stay with a few individuals.

The assumption that knowledge is not being managed effectively within government departments were confirmed a couple of months later, when the National Department of Social Services, Population and Development requested proposals for a tender that stipulated the tenderer is not responsible for compiling the research instrument, since the department themselves have already compiled the questionnaire. If the knowledge gained by the Provincial Department were effectively managed and transferred to the National Department a similar mistake could have been avoided.

Although this is an example of a single incident, it indicates that new knowledge is acquired on a daily basis and an effective knowledge management strategy would ensure that the newly gained knowledge could be shared with others in the system. Existing and new knowledge should be managed on an individual level and shared with other individuals in the same department. The departmental knowledge should then be shared with other departments, ensuring dissemination of valuable knowledge throughout National Government.

The value and importance of managing local knowledge available in a system, lies in the fact that the knowledge is context specific. Stromquist and Samoff (2000) indicate that it is of utmost importance to understand the relationship between knowledge and the social context that shapes the knowledge, while Carrillo (2002) refers to context as the element that grants semantic status to the knowledge. These authors indicate the importance of managing knowledge in a specific context, since the knowledge is specific to a particular socioeconomic environment and are relevant to contemporary challenges faced by individuals and groups active in the system. Managing the knowledge of individuals, groups and organisations within the specific social knowledge system, should be the primary objective of knowledge management.

In the subsequent chapter, the rural communities' social system will be investigated in more detail. An understanding of the structure of a rural system is essential for the effective management of knowledge within such a system.

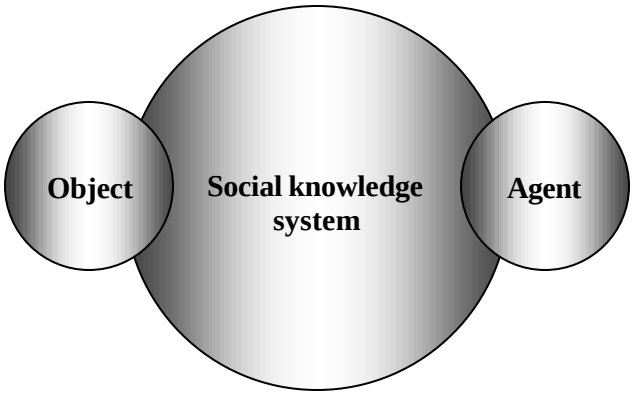
CHAPTER 6
KNOWLEDGE AND SOCIAL SYSTEMS IN RURAL COMMUNITIES

6.1 INTRODUCTION

Social knowledge systems, as described in the previous chapter, can be brought into perspective by referring back to the diagram of the knowledge event in figure 4. The interaction between the object and the agent, as well as the context in which the interaction occurs, is governed by the social system in which the object and the agent find themselves. The social system facilitates the interaction between the object and the agent and enables the subsequent knowledge transfer. However, the social system can also hamper the interaction between the object and agent, subsequently disabling the transfer of knowledge.

Figure 11

The knowledge event in social knowledge systems



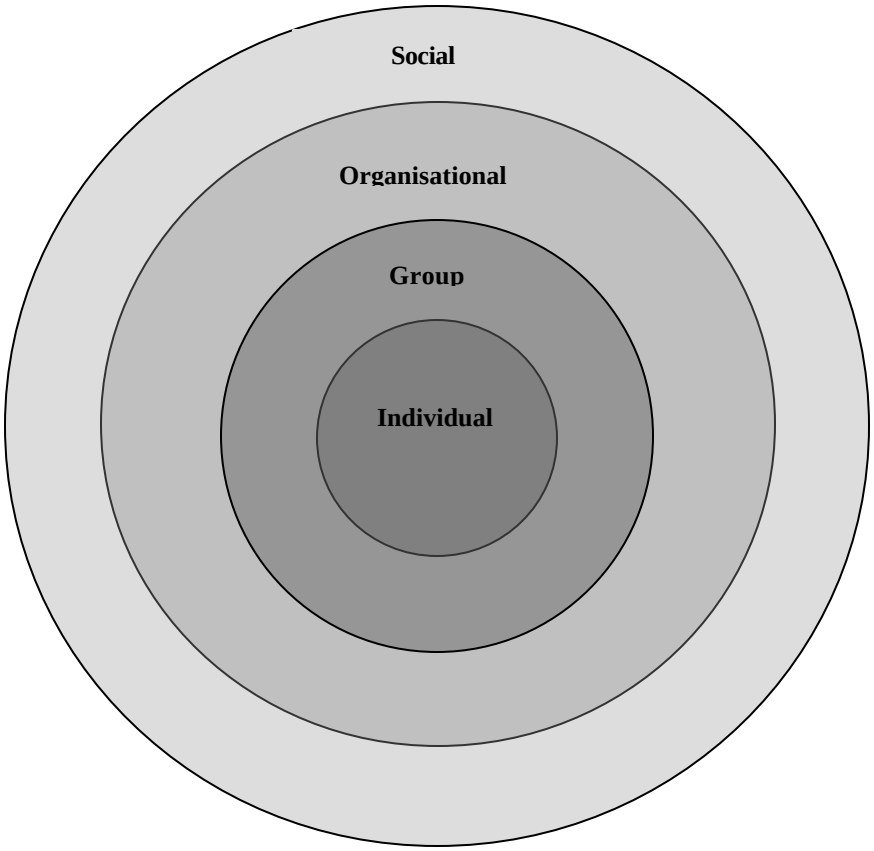
The current chapter will describe the structure of the rural community as an example of a social knowledge system, indicating how this structure related to the management of knowledge. Firstly, the different levels on which knowledge can be managed in a social knowledge system will be discussed. Secondly, the structure of the rural

community and how it relates to the different levels on which knowledge can be managed will be examined.

6.2 LEVELS OF KNOWLEDGE MANAGEMENT

Knowledge in a social system can be managed on four levels, as displayed in figure 12. The four levels are the individual level, group level, organisational level and societal level. Not only does knowledge exist on each of the four levels, but should also be management on all four levels.

Figure 12
Levels of knowledge management



The importance of knowledge management on each of the levels, as well as the relation between the different levels will be discussed in the subsequent section.

6.2.1 Knowledge management on individual level

At the centre of knowledge management is the management of individual knowledge, or knowledge that impacts on the individual. Knowledge management at an individual level is in some way implicit to all knowledge management activities. As indicated, knowledge does not exist in a vacuum, and is dependant on someone who knows. Not only does social knowledge management imply that there is someone who knows, but also that there is someone who doesn't know. The individual who receives the knowledge develops on a personal or professional level. Therefore, personal development forms the foundation on which other knowledge-based developments (organisational as well as societal) are constructed. In this regard Bennis (1997) remarked:

> In the best of all possible worlds, community and individual growth is complementary goals, not incompatible ones.

Therefore, knowledge should firstly be created and improved at an individual level before knowledge management can continue at the next level, which is the group level.

6.2.2 Knowledge management on group level

In any organisation or community, there are various groups that exist within the larger system. These could be groups of people performing similar tasks or groups of people performing different tasks to attain a common goal. In the social system investigated by this dissertation, i.e. a rural community, the notion of a group may refer to a family, a church group, nurses in a hospital or a government department. A group refers to a number of individuals who form a collective unit and who are bound together by common social standards or interests. A group, or collective unit, has certain dynamics and relate to other groups or individuals in a specific manner. At this level of knowledge management the group as a unit accumulate knowledge and integrate the knowledge into the functioning of the group.

6.2.3 Knowledge management on organisational level

On an organisational level, an organisation refers to various groups that form an organised structure or whole and collaboratively strive to attain a common goal. Knowledge management on an organisational level refers to the management of knowledge to improve the value of the organisations intellectual property. In addition, knowledge management refers to the utilisation of this intellectual property to foster innovation, improve the efficiency of processes and procedures and provide an improved service to clients and customers (Matthews, 1996). In the context of the rural community, National Government could be seen as an organisation, while the various government departments are the groups that collectively form the organisation.

However, individuals, groups and organisations are intertwined on different levels and the boundaries of each are often diffused. A specific individual can be a member of various groups, and small groups can be part of larger groups. Different organisations can also form part of even larger organisations. For instance, an international company can be seen as an organisation and the various branches in different countries can be seen as groups that form part of the umbrella company. However, each of these international branches or groups, can be seen as an independent organisation containing various groups, i.e. departments in the international branch.

6.2.4 Knowledge management on societal level

Knowledge management on a societal level has received little attention, which provided the impetus for this dissertation. However, knowledge management on a societal level has existed for ages and the leveraging of collective development through knowledge is not a foreign concept. From Neanderthal man who shared knowledge about weapons and the gathering of food, to the planting of crops and the establishment of cities, humans realised that society and its members can benefit from sharing knowledge.

Knowledge management on a societal level, is currently even more important than

during any time in the history of man. The increase in social challenges, as well as the constricted environment in which most of us live, makes us more dependant on society as a whole. In the context of this dissertation, society refers to a rural community that is constructed out of various organisations, groups of people inside and outside these organisations, as well as individual members.

6.2.5 In conclusion

When attempting to manage knowledge on a societal level, it is important to first manage knowledge on an individual level. This is followed by knowledge management on a group and organisational level, to enable the management of societal knowledge. An improvement in societal knowledge, or knowledge management on a societal level, is dependant on knowledge management in individuals, groups and organisations that form part of the larger society.

The above-mentioned levels of knowledge management can be brought into context with the object/agent interaction discussed earlier. The agent and object can also interact with each other on different levels. One individual can transfer knowledge to another individual, a group of people or even an entire organisation. A group of people can transfer knowledge to another group, an organisation or an entire society.

The preceding discussion indicates that knowledge in a social system exists and should be managed on four levels. In light of the above-mentioned levels on which knowledge can be managed, the subsequent section provides a structural view of the rural community and indicate how the structure in the community relate to the different levels at which knowledge can be managed in the social system.

6.3 STRUCTURAL VIEW OF THE RURAL COMMUNITY

In figure 13, National Government is viewed as an organisation while other groups and institutions active in the community, e.g. families, faith groups, NGO’s local council, are viewed as a separate “organisation”. Within this social structure there

exists other organisations like funding organisations, research organisations and even tertiary educational institutions.

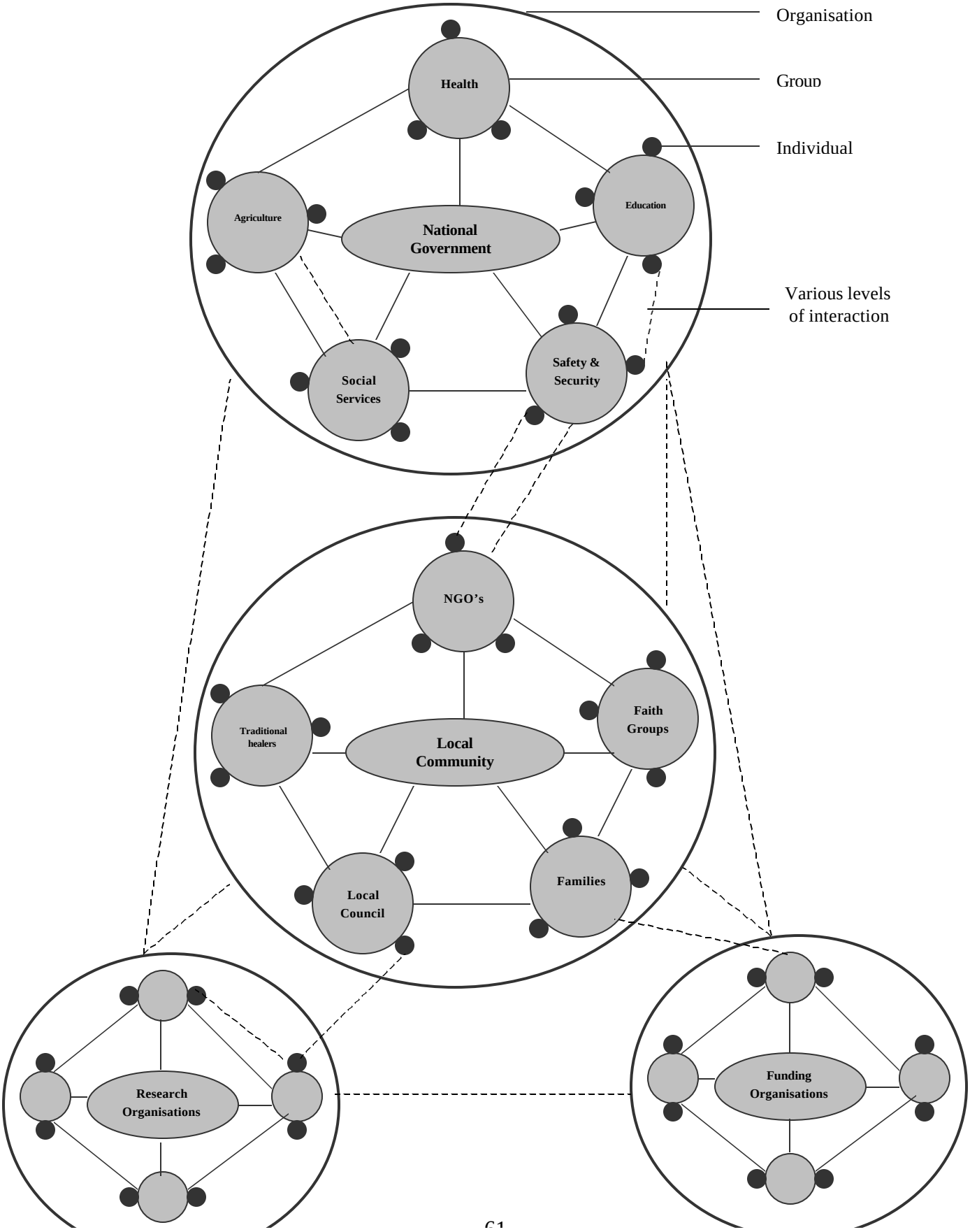
The diagram depicted in figure 13 provides a visual representation of a rural community. It shows how the structure of a rural community relates to the four levels on which knowledge can be managed. It is essential to take into account that this is a dynamic and ever-changing structure and the boundaries between groups and organisations are often diffused, depending on ones perspective. A specific individual can belong to several groups as well as to different organisations, i.e. the social worker is a member of her family and also a member of her church, therefore belonging to three groups (social workers, family, church) and two organisations (national government and local community).

There are also groups within groups, and some groups can also be seen as an organisation. For instance, the Department of Education is seen in this diagram, as one of the groups that form part of the larger organisation, National Government. However, the Department of Education can also be seen as an organisation and on this level, teachers, pupils and administrative personnel become the groups within the organisation, Department of Education.

The criteria that distinguish a group from an organisation are therefore subjective, depending on the perspective from which knowledge is to be managed. From the National Governments perspective, the Department of Education is one of the groups in the organisation, National Government. However, the minister of education would view the Department of Education as the organisation. Then again, the headmaster of a particular school who wants to manage knowledge in his/her school, will view the school as the organisation, while the teachers and pupils are the groups in his/her organisation.

Figure 13

Structural view of a rural community



The levels at which knowledge management can occur are diverse, as indicated by the dotted lines in figure 13. Knowledge transfer within the system is not restricted by the boundaries of the groups or the organisation. An individual can obtain information from another individual in the same group, someone in a different group in the same organisation or even an individual in another organisation. Knowledge can also be shared between groups in the same organisation, or between groups that form part of different organisations.

For knowledge management to be effective and ultimately lead to change in societal knowledge management, it is imperative that knowledge management strategies focus on multiple-level knowledge management. Although knowledge management commences on the individual level it should ripple outwards and be managed on group, organisational and societal level.

An understanding of knowledge management within a social knowledge system, as well as the different levels on which knowledge management can occur, pave the way for discussing knowledge related problems in the rural social system. The following chapter will describe some of the problems and challenges experienced in the rural communities and indicate how they relate to the ineffective management of knowledge.

CHAPTER 7

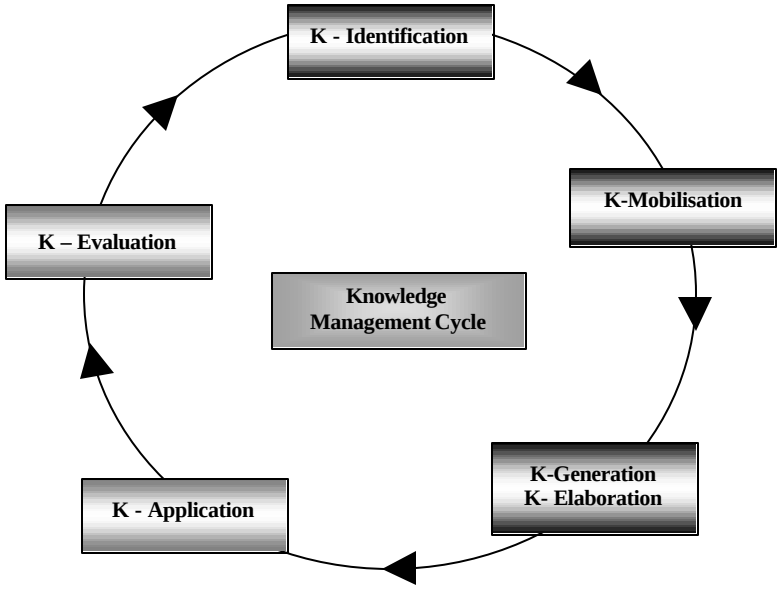
COMMUNITY PROBLEMS RELATED TO KNOWLEDGE MANAGEMENT

7.1 INTRODUCTION

The knowledge management cycle, as depicted in figure 9, provides the framework for discussing the knowledge related problems encountered in rural communities, with specific reference to the first three phases, i.e. knowledge identification, knowledge mobilisation and knowledge generation/elaboration (Figure 14).

Figure 14

Knowledge identification, - mobilisation and - generation/elaboration.



7.1.1 Identification of knowledge gaps

The information collected during the Situation Analysis, as well as the knowledge related problems documented in this dissertation, could be seen as the first step of the knowledge management cycle, i.e. the identification of knowledge gaps. The identification of knowledge gaps in an organisation or community assumes that the available knowledge in the system is insufficient. The major objective of the knowledge management initiative is to address these knowledge inadequacies.

7.1.2 Knowledge mobilisation

The second step in the knowledge management process, knowledge mobilisation, assumes that knowledge is not mobilised effectively. Knowledge mobilisation assumes that the required knowledge is available in the system (i.e. rural community), but that the knowledge is not shared between members in the community. The knowledge remains with certain individuals instead of being transferred to other members in the community that might benefit from the knowledge.

7.1.3 Knowledge generation/elaboration

Knowledge generation and knowledge elaboration primarily refers to situations where there is a lack of knowledge. Problems in the community could be effectively solved if knowledge is added to the system, subsequently increasing the knowledge base of members in the community.

7.1.4 Fusion between knowledge mobilisation and knowledge generation/ elaboration

Before discussing the various problems encountered in the rural communities in question, it should be noted that the above-mentioned problems (ineffective knowledge mobilisation and lack of sufficient knowledge) cannot be isolated from

each other. A lack of knowledge in the system implies that there isn't sufficient knowledge in the system to be mobilised, while ineffective mobilisation of knowledge will lead to a lack of knowledge in other areas. The interconnectedness between these two concepts makes it difficult to differentiate between these two problems, since the two problems mutually affect each other.

The subsequent discussion will focus on various problems encountered in the communities and indicate how these problems relate to, and could be improved by, knowledge management.

7.2 KNOWLEDGE RELATED PROBLEMS IN RURAL COMMUNITIES

7.2.1 Introduction

In the subsequent section specific problems encountered in the three rural communities in Mpumalanga will be discussed. Examples from various situations and circumstances, involving different individuals, groups of individuals as well as various government departments will be used. These examples will indicate how a knowledge management approach could improve the range and quality of services provided to community members.

It must be stated that it is not the objective of this dissertation to discuss the entire range of problems encountered in the community and how knowledge management can attempt to solve these problems. The aim of the dissertation is to make use of a sufficient number of examples, to indicate how a large number of problems in rural communities are related to the ineffective management of knowledge.

The data collected during the Situation Analysis were collected via focus groups and therefore no quantitative information will be used in the discussion. The knowledge related problems encountered in the three communities will be discussed under the following headings:

- Problems related to health services;
- Problems related to social services;
- Problems related to safety and security;
- Problems related to other aspects in the community;
- Problems related to the non-integration between various departments; and
- Problems related to the confidentiality of information.

7.2.2 Problems related to health services

The following problems deal with various aspects related to health service provision to community members.

7.2.2.1 Improve the services provided by traditional healers

Traditional healers in rural communities are respected individuals and numerous people in the community make use of their services and value their opinion. In recent times however, these traditional healers have been criticised by the Department of Health because of certain practises and rituals they perform. The following statement by one of the community members accentuates why:

> There are still a lot of people in our community who trust and believe in the traditional healers. Some traditional healers believe that HIV/AIDS is caused by witchcraft and uses razor blades and other sharp instruments to get rid of evil spirits. When another person visits the traditional healer, the same blades are often used on them.

Instead of healing members in the community the traditional healers could actually be infecting some of the community members with HIV/AIDS. These cultural beliefs could lead to the spread of HIV/AIDS in the community. Some traditional healers also believe that one can be cured of HIV/AIDS by having sexual intercourse with a virgin. This results in sexual abuse of many young girls in rural areas.

Theses harmful practises are the result of a lack of knowledge among traditional healers. Traditional healers do not only provide poor guidance in terms of HIV/AIDS, their lack of knowledge can actually increase the prevalence of HIV/AIDS. The lack of knowledge and the insufficient mobilisation of knowledge are closely related to each other and the lack of knowledge of traditional healers is a perfect example of this. Relevant knowledge does exist in the system (rural community) in the form of doctors and nurses from the Department of Health. However, this knowledge is not transferred to traditional healers, resulting in a lack of knowledge with traditional healers.

If these traditional healers receive and integrate current and accurate knowledge about HIV/AIDS, it could lead to changes in their behaviour and improve the quality of services they provide. Community members utilising their services will in turn receive accurate and current information regarding HIV/AIDS, as well as other diseases.

7.2.2.2 Eradicate the stigma of HIV/AIDS

In rural communities there are many untruths about HIV/AIDS. Some individuals believe that you are possessed by evil spirits, while others believe that only prostitutes get infected with HIV. Traditionally, rural residents have relied on informal networks of family members, neighbours and friends, for transportation, financial assistance, temporary housing, and emotional support. The stigma that surrounds HIV/AIDS (you are either a prostitute or possessed by an evil spirit) prevents people living with HIV/AIDS from disclosing their HIV/AIDS status and consequently they receive inadequate care and medication.

In addition, the stigma surrounding HIV/AIDS has a negative impact on prevention strategies. The lack of openness about the disease, caused by the stigma attached to it, makes the transfer of knowledge to community members problematic. People in the community are reluctant to discuss the topic, because of the social dynamics in the rural community and the possible social isolation, should people think you are infected with HIV. Young people in the community are hesitant to ask questions about HIV and AIDS since this might imply that they are HIV positive.

Although the South African government has an extensive information dissemination campaign, changes in the behaviour of rural community members are still not evident. Intervention programs have focussed on prevention techniques and not on the underlying beliefs that govern the behaviour of community members. If an individual believes that only prostitutes become infected with HIV, or that HIV/AIDS is the result of being possessed by an evil spirit, wearing a condom doesn't make much sense to the average community member.

An effective knowledge management strategy, aimed at providing community members with current and accurate information regarding the onset of HIV/AIDS, could reduce the stigma associated with the disease. This type of information will not only reduce community members' chances of becoming infected with HIV, but in addition, will ensure that community members who discover that they are HIV positive aren't socially isolated and rejected.

7.2.2.3 Improve the relationship between hospital staff and community members

Quite a large number of community members complained about the quality of service they receive at hospitals and the way in which hospital personnel treat them. Community members indicated that they sometimes have to wait for hours before they receive any assistance and that hospital staff do not treat them with respect and curtsey. The following remark by one of the focus group participants describes the perception of most community members.

> It seems as if they aren't interested in providing a good service to the community. Hospital staff do as little as possible and never go out of their way to help us.

Some community members reported that they have seen hospital staff shout at the elderly and that the staff members do not have time to listen to the problems and concerns of individuals visiting the hospital. Community members feel rejected and

say that the hospital and clinic staff are always in a hurry and don't spend any individual time with anyone.

Further investigation revealed that hospitals and clinics in these communities are understaffed and that doctors and nurses work under immense pressure. In some cases, it was reported that the cleaning staff are utilised to assist the hospital personnel in their duties. Doctors and nurses working under these conditions find it very difficult, if not impossible, to spend quality time with each individual. Hospital personnel have limited human and other resources, resulting in long waiting lines and a stressful working environment.

The hospital personnel are aware of the fact that they are understaffed and overworked, but this message is not reaching the community. Community members are not aware of the pressure under which hospital personnel have to perform. The only thing community members see, is that hospital personnel are rude to them. An effective knowledge management strategy would introduce a culture of information sharing, providing a setting in which community members and hospital personnel can share their feelings and viewpoints. This type of information sharing would inform hospital personnel of how their behaviour is perceived by community members and would ensure that they make a conscious effort to be more friendly and supportive towards community members. In turn, community members will realise that hospital personnel work under immense pressure and with limited resources. This will help community members understand that doctors and nurses cannot always spend a lot of time with each individual.

Knowledge management would not eliminate the problems of being understaffed, but it will improve the relationship between hospital personnel and community members.

7.2.2.4 Prevent medication shortages in clinics

The shortage of pharmaceutical supplies was found in all three communities visited during the Situation Analysis. The hospital in each of these areas is responsible for the supply and distribution of medication to the clinics in the area. The clinics are

severely affected by shortages of medication, as they are the last link in the distribution chain to receive the mediation and the first resource community members turn to for medication.

It seems as if the system utilised by the clinics to order medication from the hospital, is the major cause of shortages in medication. Medication is ordered on a weekly basis and clinics determine the necessary quantity by examining the previous week's usage. Unfortunately, this method presumes that the following week's usage will be identical to that of the previous week and clinics regularly run out of medication employing this method of ordering. Not only do clinics run out of medication, but sometimes receive the medication later than expected. It seems that information about delivery schedules or sudden shortages are not shared between the clinic and hospital personnel. A knowledge management program will facilitate the communication and information sharing between hospital and clinic personnel, by providing a structure and environment that supports the dissemination of information and knowledge. This could significantly improve the way in which medication is ordered and subsequently reduce the number of times the clinic run out of medication.

Not only is this an example of ineffective mobilisation of knowledge, but in addition, also illustrates how data are not transformed to knowledge. The daily, weekly, monthly and yearly usage of medication, as well as all previous orders is available to the clinic and the hospital. However, this data is not transformed into information and knowledge. By closely examining these records, the data can be turned into information and specific trends can be identified. The recognition of these trends and the application of this information to improve the ordering system, can be seen as the creation of new knowledge

7.2.3 Problems related to social services

The following section describes some of the problems related to the provision of social services in rural communities.

7.2.3.1 Improve the allocation of foster care grants to extended family members

The Situation Analysis revealed a significant problem in terms of the allocation of Foster Care Grants to extended family members. A recent orphan survey conducted by the author in collaboration with the Department of Social Services, Population and Development in Mpumalanga; verified this finding. Both studies found that the allocation of Foster Care Grants to immediate family members, were significantly lower than the allocation of the same grant to other people in the community caring for orphans. Extended family members in rural communities have traditionally been used to care for children of family members who have passed away. Receiving financial support for this care is a foreign concept in the rural community.

Although these family members are entitled to receive a Foster Care Grant, the lack of knowledge about the various grants, deprive these family members of financial assistance that they should rightfully receive. Prior to the undertaking of the Situation Analysis, the Department of Social Services, Population and Development were not even aware of this phenomenon. The data collected during the Situation Analysis and the subsequent information resulting from this research, enabled the Department of Social Services to identify a knowledge gap that has a serious effect on their service provision, as well as the lives of immediate family members caring for orphans. As a result of the findings of the Situation Analysis, the Department of Social Services are in the process of launching a provincial information dissemination campaign, specifically targeting extended family members caring for orphans. Not only do the department plan to distribute this information, but they also realise the importance of turning this information into valuable knowledge, by assisting identified family members to actively utilise this knowledge and apply for a Foster Care Grant.

The preceding account is a perfect example of the value of social research. If information gathered during a research project is turned into knowledge, and this knowledge is actively applied within the context in which it was generated, the quality of life of the research participants could be significantly improved.

7.2.3.2 Improve the range and quality of services offered by social workers

Social workers in all three communities indicated that they need additional knowledge in terms of HIV/AIDS prevention and counselling. A large number of community members turn to the social workers for advice and support in terms of HIV/AIDS. Social workers indicated that they could provide a more extensive service, if they could educate community members in terms of HIV prevention strategies and provide much needed counselling and support for individuals infected by HIV. The identification of this knowledge gap is the first step in the knowledge management cycle. However, in this instance, the identification of the knowledge gap should be accompanied by the identification of appropriate knowledge bearers who would be able to provide the social workers with the information they require. The knowledge bearers, in this case, could be someone internal to the group "social workers" (e.g. another social worker in the department), internal to the organisation "government" (e.g. nurses or doctors from the Health Department) or someone external to the organisation (e.g. psychologists specialising in HIV/AIDS counselling and support).

In some instances, the knowledge required to improve the functionality within a specific system is difficult to identify, since the required knowledge has no direct correlation to the daily tasks and responsibilities of individuals in the system. A clear example of this type of knowledge gap is the lack of project management skills, identified by social workers. Social workers indicated that although they have the academic knowledge to provide a range of social services to the community, they sometimes lack the management skills to utilise every available resource for a specific project. A workshop on project management, preferably conducted by someone who specialises in project management, would capacitate social workers and enhance the efficiency and effectiveness of individual projects

7.2.3.3 Improve the system utilised to register births

While visiting these rural communities, it became clear that the registration process for births is inconsistent and ineffective. In some areas the clinics complete the necessary documentation and send it to the Department of Home Affairs. Clinics in other areas indicated that they don't register the child, since it is the responsibility of the parents to register their child. It was found that many of the parents themselves are not in possession of identity documents and are therefore unable to register the birth of their children.

While conducting an orphan survey in Mpumalanga, the author discovered the devastating effect that resulted from this lack of information dissemination. It was found that only 6 % of all orphans receive some type of grant. One of the major contributors to this low rate of grant allocation, was the fact that a large number of these orphans are not in possession of a birth certificate. Subsequent to the passing away of parents, usually the result of HIV/AIDS, it was found that no documentation existed for the children or their parents. Allocating grants in these situations are virtually impossible.

An effective knowledge management program would make clinic and hospital personnel aware of the value of this information and would facilitate the effective dissemination of the information. Applying this information, i.e. registering the child, creates valuable knowledge within the Department of Home Affairs. This knowledge could then be utilised by the Department of Social Services, Population and Development, enabling them to allocate grants to children because the necessary documentation is in place.

The preceding account is an example of how closely related the lack of knowledge and the ineffective dissemination of knowledge are, and the negative effect it could have on the delivery of social services. The ineffective dissemination of knowledge by one department (Department of Health) creates a lack of knowledge in another department (Department of Home Affairs). The lack of knowledge in the Department of Home Affairs leads to ineffective dissemination of knowledge to another department (Department of Social Services) and the resulting lack of knowledge in

the Department of Social Services severely affects their allocation of grants to orphans in the community.

Implementing a sound knowledge management strategy can provide the structure and motivation for this type of information to be turned into knowledge. The effective dissemination of the knowledge could significantly improve the range, as well as the quality of services provided to community members.

7.2.4 Problems related to safety and security

The following problems were identified by police officers in all three communities and indicate how the effective dissemination of knowledge can improve the knowledge base of police members as well as community members. This will improve quality of services provided to community members.

7.2.4.1 Improving the knowledge base of police members

Police members themselves, as well as a number of social workers, indicated that police members do not possess adequate knowledge to deal with sensitive cases. When police members have to deal with sensitive cases like domestic violence, child abuse and rape, their approach is characterised by a lack of sympathy and support. Police members will interrogate these victims ruthlessly in order to gather the relevant facts, oblivious of the trauma the victim experienced and without showing any compassion.

Police members themselves indicated that they are aware of this problem and know they should be more supportive and subtle in their approach. However, police members feel they do not possess sufficient knowledge to effectively deal with these sensitive situations. Police members informed the research team, that they deal with violent crimes and potentially dangerous criminals in the majority of cases and most of their training revolves around this aspect of their profession.

A number of social workers expressed their willingness to provide police officers with the relevant knowledge, but acknowledged that there are no structures in place that enable them to do this. Subsequent chapters will indicate that Communities of Practise can provide the ideal structure, enabling social workers to share this valuable knowledge with police officers. A structure that facilitates the sharing of knowledge provides and environment that facilitates discussions and the dissemination of important information, consequently improving the services provided by police members.

7.2.4.2 Educating the community about police services

A large number of police officers indicated that community members are uninformed about the role of the police in their community as well as the services the police provide. The lack of knowledge by community members, results in a situation where community members view the police as their enemies instead of their allies.

The above-mentioned example differs from the previous examples, in the sense that the police officers do not possess specialised knowledge that should be disseminated to community members. The misunderstanding between community members and police officers is the result of one group being oblivious of the role of another group in the same system. An educational campaign, aimed at informing community members about the role of the police in their community, would not only facilitate the development of a trusting relationship between police officers and community members, but also motivate community members to cooperate with the police. Cooperation between police officers and community members could significantly reduce the prevalence of crime in the community.

7.2.5 Problems related to other aspects in the community

The following two examples indicate that knowledge possessed by community members themselves, could be applied in the community to enrich the lives of all the members in the community.

7.2.5.1Knowldge related to the construction of housing

Shelter is one of the most basics requirements and a lack of proper housing presents a social problem that could have a negative impact on other social issues. Because of limited financial resources many, individuals in rural communities build there own huts and houses. Unfortunately this is done in a haphazard way and houses are constructed on loose soil, without the construction of proper foundations to support the houses. The three areas visited during the Situation Analysis are prone to violent thunderstorms and torrential rain during the summer rainy season. During these times, rivers of water flow past the houses, turning the soft soil into mud. This results in the collapse of the structure, which has caused a large number of deaths and serious injuries.

The municipal councillors in one of the communities believed that they have a solution to this problem. The councillors informed the research team that there are a large number of individuals in the community who have been employed in the building and construction industry, who were currently unemployed. The knowledge possessed by these community members could be transferred to other community members, enabling them to construct a proper foundation before building the rest of the house. This example indicates the value of transferring tacit knowledge to other members in the same system. On the other hand, if the tacit knowledge is not transferred, it will eventually be lost, resulting in the loss of valuable knowledge to the entire system.

7.2.5.2 Street lighting, public telephones and the condition of roads

One of the major problems encountered in rural communities, has to do with the infrastructure in the community. In most instances, it is not the lack of infrastructure per se, but the maintenance of infrastructure that is problematic. Community members indicated that poles for streetlights have been there for years, but that the lights have never worked. A large number of public phones are visible throughout the community but only 40 % of these telephones are in working order. Equally, there are numerous roads throughout the community, but the condition of these roads are so horrendous

that it is impossible to travel on them by car. Although the infrastructure exists, these services are not maintained at all.

Community members indicated that a large number of unemployed individuals in the community posses the knowledge to maintain these services. However, there is no strategy being employed in the community to utilise this knowledge. While this is not a situation where a knowledge gap is identified, it is the identification of knowledge within the system that could be utilised to improve the system. In this case, the knowledge already exists, but the subsequent step in the knowledge management cycle; the application of knowledge, is not complied to. This is a perfect example of the importance of applying knowledge. By applying the knowledge that is available in the system, it would not only lead to the improvement of services in the community, but would also provide a large number of unemployed individuals with the opportunity to receive an income. Without application, the value of knowledge cannot be observed, appreciated or understood.

7.2.6 Problems related to the non-integration between various departments

One of the prominent findings of the Situation Analysis was the limited integration of services between various government departments. It may be argued that the lack of integration is the reason why knowledge cannot be effectively disseminated between departments. On the other hand, the lack of knowledge dissemination may be the reason why there is no integration between various departments.

Both statements are probably true, however, what is important is that effective knowledge dissemination and the integration of services is mutually inclusive. It is the view of the author that an effective knowledge management program, focusing on the dissemination of knowledge within and between departments, could significantly improve the current level of integration between different departments. The integration of services between different government departments will have a synergistic effect and will result in improved service delivery to the community.

The lack of knowledge and the lack of knowledge dissemination are closely related and the one affects the other. The following situations illustrate how intertwined these two aspects are and how they relate to the non-integration of government departments.

7.2.6.1 Integration between social workers and police officers

Police officers indicated that they work under extreme pressure and are involved in many situations that are disturbing and unsettling. These working conditions have a negative influence on their work, as well as their personal lives. Police members indicated that there is an urgent need for some type of counselling service or workshop, empowering them to effectively deal with post-traumatic stress and other emotional issues resulting from daily situations they have to deal with.

Social workers on the other hand, told the research team that they have extensive training in trauma counselling and other forms of counselling and support. When National Government is viewed as an organisation, it is clear that one department in the organisation (social workers) possess knowledge that could benefit another department in the organisation (police members). The knowledge is not disseminated within the organisation, creating a lack of knowledge in a specific department. The non-mobilisation of knowledge and subsequent lack of knowledge, negatively affects the performance of the department as well as the performance of the entire organisation.

7.2.6.2 Integration between hospital staff, social workers and police officers

In many instances, the Department of Safety and Security, the Department of Health and the Department of Social Services, Population and Development need to work in close collaboration. Rape and child abuse has a high prevalence in these communities, and community members indicate that victims do not receive adequate treatment after these traumatising experiences. Typically, the police are first to arrive at the scene to investigate the incident. The victim also needs to visit the hospital for a medical

examination and the social workers in the community are responsible for counselling and support of the victim and their family.

In many instances, the information that the police gather are not disseminated to hospital staff or the social workers and victims have to provide information pertaining to the case several times. Social workers indicate that they seldom receive the police report of the incident or the results of the medical examination. Hospital staff indicated that when a person is referred to the social workers for counselling, they sometimes return days later without being able to contact the social workers. Police members indicate that important information from the medical examination or information obtained during counselling is not forwarded to them. Hospital staff and social workers complained that police members sometimes interfere with their duties by trying to obtain additional information while they are in consultation with the victim.

The preceding account describes how the lack of knowledge dissemination affects the non-integration between departments. Each department operates in isolation, unaware and ignorant of what the other department is doing. Each department collect their own information and follow their own procedures, in many instances reproducing what has already been done. The solitary information, knowledge and wisdom gained, is not shared or integrated into a comprehensive whole.

Knowledge management initiatives can instil a culture of sharing and a collective purpose that would enable various departments to experiment with innovative ways of collecting information and turning this information into valuable knowledge. The newly created knowledge would inform the department and improve their understanding and handling of similar situations, while ensuring that the victim receives optimal guidance, advice and support. If government departments view knowledge sharing with other departments as an objective, integration between departments would be a natural consequence of knowledge management.

7.2.6.3 Integration between hospital staff, clinic staff and Home Based Care

In most rural communities, hospitals and clinics do not have the human resources to attend to community members at home. Home Based Care (HBC) units active in the community provide this service to community members. Hospital and clinic staff indicated that there are no communication and information dissemination between themselves and the volunteers in the HBC units. They pointed out that the only times they see the HBC volunteers, are when the volunteers are in need of medication or other supplies. Hospital and clinic staff indicated that they have no information regarding the families the HBC unit visits, the conditions of the individuals in the family or why these individuals receive assistance in the first place.

There are no structures in place that provide a foundation for collective meetings where problems, shortages of support materials and conditions of patients can be discussed. In this case, the negative impact of non-integration lies in the fact that HBC volunteers do not have a medical background and in many instances do not possess sufficient knowledge to deal with certain situations and conditions.

Unfortunately, the initiative to organise collective meetings has not emerged from either the HBC volunteers or the hospital and clinic staff. Knowledge management initiatives do not only provide the structure and culture to facilitate these types of meetings, but also create awareness about the value of knowledge and its dissemination. Individuals in organisations and communities are often not inquisitive enough to question the processes and procedures they follow, and are oblivious to the possibility that there might be more efficient and effective ways of dealing with daily responsibilities.

Knowledge management could be effectively used to share knowledge between HBC volunteers and hospital and clinic personnel. HBC volunteers could gain valuable knowledge pertaining to the service they deliver and provide care of outstanding quality to the individuals they visit. At this stage, clinic and hospital personnel feel used by the HBC volunteers and are reluctant to provide them with advice and support. A knowledge management initiative could instil an ethos of collaboration, improving the relationship between HBC volunteers and hospital and clinic personnel.

The integration of services could have a marked improvement on the quality of service provided to community members.

7.2.6.4 Improving health and social education in schools

Teachers in various schools pointed out that they themselves, as well as the learners, do not have sufficient knowledge about HIV/AIDS, first aid, abuse, sexual offences, child neglect and nutrition. Teachers were of the opinion that they, as well as the learners in the school, could benefit from educational workshops conducted by hospital personnel, clinic personnel and social workers. However, hospital and clinic personnel, as well as social workers, indicated that they do not have the time or human resources available to provide an effective service to all learners in the community.

In the light of this statement, it seems unlikely that hospital personnel, clinic personnel and social workers would be able to provide education to the learners and teachers in the communities. However, viewed within the framework of knowledge management, it will not be necessary for a whole group of hospital personnel, clinic personnel, and social workers to engage in such an initiative. As pointed out by figure 12, knowledge management occurs on various levels. One individual has the ability to educate an entire group of individuals, even a whole organisation. In this specific instance, one nurse or one social worker has the ability to train an entire group of learners or teachers.

A possible solution is that a nurse or social worker possessing sufficient knowledge, educates a group of teachers. The individual teachers, who are in daily contact with groups of learners, can disseminate this information to a large number of learners. The teachers as well as the learners, who acquired the new knowledge, can teach other individuals, consequently creating new knowledge in the entire community. This example indicates the effectiveness and enormous potential of managing knowledge on all levels. The knowledge possessed by one individual can influence an entire community if it is managed correctly.

7.2.6.5 RDP Housing Project

The RDP housing projects implemented in rural communities, provide and example of the unique ways in which knowledge management can influence a community. A station commander in one of the police stations told the research team that he believes the RDP housing project increases criminal activities in the community. He explained that most of the RDP houses is awarder to young men and women who are often unemployed. He indicated that in a large number of cases, young men are caught stealing household appliances and furniture for the sole purpose of furnishing their newly acquired homes. According to the station commander it would be better if these houses were awarded to elderly members in the community. Elderly members in the community are in desperate need of proper housing and are unlikely to turn to crime in order to furnish their houses.

Even if the station commander has evidence that the current method of allocating RDP housing increases the prevalence of robberies in the area, it would be extremely difficult for him to convince the relevant authorities to amend the process of allocating RDP houses. Within the framework of knowledge management, the insertion of new knowledge into the system is only the start of the knowledge management process. As indicated by the knowledge management cycle in figure 9, the creation of new knowledge should be followed by the application and evaluation of the new knowledge. In this particular case, the application of knowledge would entail a thorough investigation into the financial position of prospective house owners. By examining the criminal trends in the area, the application of knowledge could be evaluated. If it is found that the new method of allocating RDP houses does indeed reduce the incidence of robberies in the area, the knowledge could be shared and applied in other rural communities, consequently reducing crime in these communities as well.

7.2.7 Confidentiality of information

One of the aspects that receive a great deal of attention within knowledge management in corporate organisations, is the protection of sensitive information. Companies need to protect the creativity and innovation in their organisation in order to gain a competitive advantage. A great deal of money and effort is spent on keeping sensitive information out of the public domain. Although the protection of knowledge is not a central theme in the context of the current dissertation, it does however apply to certain types of knowledge in a social environment.

A large number of community members who participated in the focus groups, expressed their dissatisfaction with how personal information is handled in the community, especially by hospital personnel. The privacy of community members is not respected and they are afraid to disclose any personal information, in fear that it would be made public. This presents a huge problem when one considers the stigma regarding HIV/AIDS that exists in rural communities. If members in the community do not feel confident that information pertaining to their HIV status would be kept private, they will firstly avoid voluntary HIV testing and secondly, would be hesitant to receive treatment if the test indicates that they are HIV positive

One of the municipal counsellors told the research team that if anyone goes to the hospital today and the HIV test indicates they are HIV positive, the whole community would know it the following day. Although the dissemination of information through the “grapevine” is a natural phenomenon in small communities, it is something that needs to be addressed. Hospital personnel have a professional obligation to ensure the confidentiality of sensitive personal information.

Community members in rural communities do not view information and knowledge as valuable and therefore do not keep confidential information private. It is essential that members of the community, especially those who obtain personal information of other community members, be informed about the value of information and knowledge. Without a change in the way information and knowledge is perceived, the dissemination of sensitive information will continue.

7.2.8 In conclusion

As indicated in the preceding discussion, the effective management of knowledge can have a positive influence on various types of services in rural communities.

The lack of information and knowledge dissemination had a negative effect on the Situation Analysis itself. Coordinators of the focus groups explained, that no information dissemination structures exist in the community and that participants could not be contacted prior to the focus groups. This statement should be seen in the light of the fact that the planning meeting for the focus groups were held one month in advance of the first focus group and that the research team were active in each community for at least one full week.

Participants either received the information after the focus group had already taken place, or were given the wrong information about the nature and purpose of the focus groups. A number of community members were of the opinion that it was an ordinary community meeting and declined to participate.

CHAPTER 8

A CONTEXT FOR IMPLEMENTING KNOWLEDGE MANAGEMENT

8.1 INTRODUCTION

Similar to the creation of knowledge, the implementation of knowledge management is context specific. Therefore, the knowledge management processes depicted in figure 9 are influenced by the context in which they are implemented. Shortell et al. (1995) indicate that the success of implementing a knowledge management program depends on features in the context. If the context is not conducive to the management of knowledge, the effective implementation of knowledge management processes will be problematic. Knowledge management processes cannot be isolated from the context in which they appear and the development of a balanced knowledge management strategy implies that the macro environment in which knowledge management should occur must be addressed.

The current chapter will therefore investigate the different features that influence the implementation of the knowledge management processes.

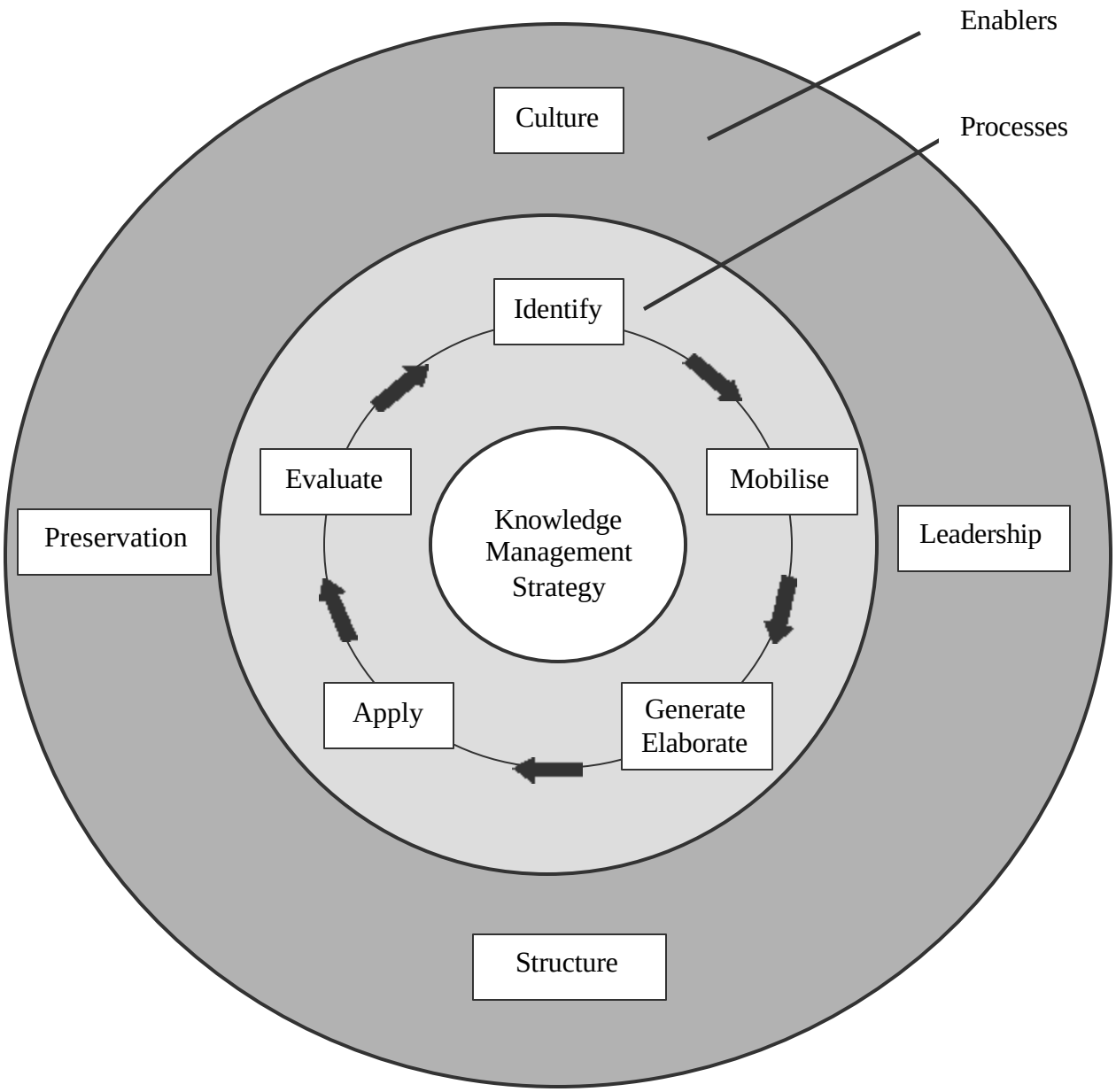
8.2 KNOWLEDGE ENABLERS

Knowledge enablers can be described as mechanisms that are present in an organisation or community and will therefore support and facilitate the implementation of knowledge management processes. However, the non-existence of these knowledge management enablers will hinder the effective implementation of knowledge management processes.

Figure 15 displays a comprehensive knowledge management framework that includes the knowledge management processes, as well as the knowledge management enablers that can facilitate the implementation of the knowledge processes.

Figure 15

Comprehensive Knowledge Management Framework



The knowledge management "enablers" in the outer orbit already exist in any organisation, institution or community. However, the particular organisational culture, leadership styles, organisational structure and knowledge preservation processes can

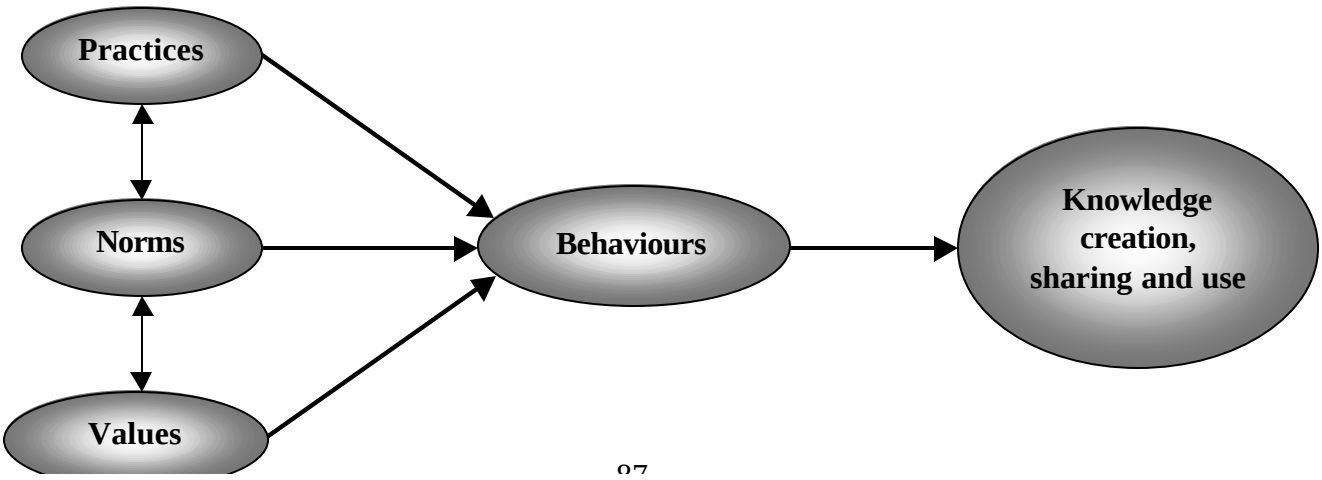
either support or hinder the management of knowledge. The subsequent section will investigate each of the knowledge management enablers and indicate how different organisational cultures, leadership styles, organisational structures and preservation processes influence the management of knowledge.

8.2.1 Organisational culture

Organisational culture refers to the patterned way of thinking, feeling and reacting that exists in a specific organisation. It is the unique mental programming of the specific organisation (Tosi & Merno, 2003). Similar organisations, or organisations in the same industry have more or less the same culture. Similarly, communities that share the same characteristics, e.g. rural communities, or government departments forming part of the same National Government, might have comparatively similar cultures. The culture in an organisation, department or community reflects its values and fundamental believes about what should be done, how it should be done and who should do it. Du Brin (1997) indicates that organisational culture is a system of shared values and beliefs that governs the behaviour of individuals in the organisation. In most organisations it is important to maintain a specific culture since it provides identity to the organisation. This is the reason why cultural change is very hard to attain. The concept of culture could be segregated further into values, norms, and practises (Fahey & De Long, 2000). They indicate that culture is not only intangible and illusive, but can also be observed at multiple levels in an organisation as indicated by figure 16.

Figure 16

Culture elements influence behaviour



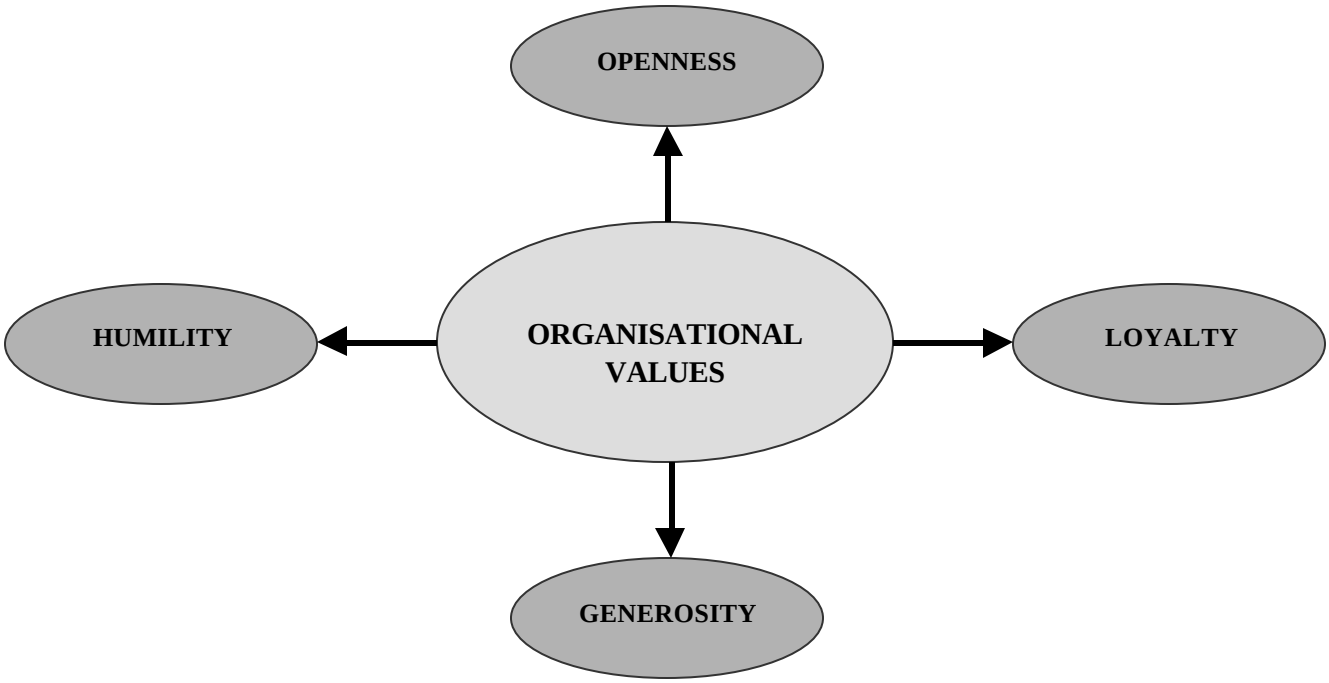
Values, norms and practises are the building blocks of an organisation or community's culture. At the deepest level, culture consists of values, which are embedded, tacit preferences about what an organisation should strive to attain and how the organisation should accomplish this. Values refer to a feeling of what is good and what "should be" (Schein, 1985). Values therefore provide general guidelines for behaviour. Norms are generally derived from values, but they are more observable and easier for employees to identify. Norms are unwritten rules of behaviour and attitudes and are more precise and situationally adapted expressions of values (Schneider, 1976). Practises are the most visible symbols and manifestations of an organisations culture.

Values, norms and practises reflect different levels of observability of an organisations culture, but the concepts are fundamentally interrelated. Values manifest in norms that, in turn, shape specific practises. While values shape norms and practices, it is sometimes easier to change practises and norms in an attempt to reshape values, and subsequently organisational culture, over time. The subsequent section will investigate the values necessary to shape an organisational culture conducive to knowledge management. Norms and practises will be discussed in chapter 9, which focuses on practical ways to transform organisational culture to support knowledge management.

According to Mats (1995) there are specific values in an organisation or community that can either enhance or debilitate the management of knowledge in the organisation (figure 17). A closer look at these values will indicate that the correct organisational culture could have a significant impact on how knowledge is viewed and shared in the organisation.

Figure 17

Organisational values conducive to knowledge management



8.2.1.1 Openness

Allee (1997) indicates that the key elements of a knowledge culture are a climate of trust and openness. Openness refers to the honesty and directness of directors, managers and employees, with regard to what is happening in the organisation or community. Openness facilitates the dissemination of information and employees become accustomed to receiving and providing information about what is going on in their specific department and the organisation as a whole. On the other hand, reticence in an organisation or community can stifle the flow of information. The Situation Analysis indicated that the lack of openness between different government departments is the prevailing cause of non-integration between departments. The lack of communication, caused by the lack of openness, is the primary reason why certain government departments are unaware of what other government departments do.

8.2.1.2 Loyalty

Loyalty refers to a “we-feeling” and a strong conviction of being there for others and assisting them. If people feel that they belong, that they are part of the vision of the organisation, they will put the objectives of the organisation before personal gratification. This will ensure that employee’s work collaboratively to attain and ensure a better future for everyone in the organisation.

During the Situation Analysis it was apparent that there was a divide between ordinary community members and the “professionals” in the community. During the focus group sessions, community members regularly referred to “us” and “them”. When asked to elaborate on this statement it became clear that community members referred to individuals in professional positions as “them”. A large number of community members was of the opinion that doctors, nurses, social workers and police officers were not interested in the upliftment of the community and its members, but were more concerned about personal gain. The following statement of one of the focus group participants encapsulates how most community members feel:

> The nurses and social workers only do what is necessary for them to receive and income and nothing more. They do not care about us ordinary citizens.

8.2.1.3 Generosity

Generosity within the framework of knowledge management refers to the sharing of information and knowledge. A culture of generosity also includes the continuous training of employees in the organisation. If employees are generous, they will be willing to share what they know and in doing so, expand the knowledge base of their fellow employees. If an organisation values information and knowledge and realise the importance of expanding the knowledge base of individuals in the organisation, continuous further training should be imbedded in the culture of the organisation.

In contrast, many managers and senior personnel are reluctant to share their knowledge, in fear that it might elevate other people in the organisation and put their own job in jeopardy. The old saying of “knowledge is power” is still too apparent in many organisations.

8.2.1.4 Humility

Humility might be a strange concept in the context of knowledge management, but it is closely related to the concept of openness. Humility is a matter of learning from others. By asking others how they perform a specific task, the door is opened for the dissemination of knowledge. Individuals are sometimes reluctant to acknowledge that they do not know how to perform a specific task or deal with a specific situation, especially within government departments. Humility also refers to the acknowledgement of being wrong and recognising ones own mistakes. The author is of the opinion that the inability of government employees to admit that they are wrong or that they do not know how to do something, is largely due to the culture that exists within National Government as a whole. Newspapers are continuously reporting on irregularities and corruption within government, but acknowledgements and apologies are rarely heard of.

8.2.1.5 In conclusion

An effective knowledge management strategy will be difficult to attain if the culture within a department, organisation or community does not facilitate the knowledge management processes being implemented. The culture that exists within an organisation and community forms an integral part of the knowledge management strategy and could make knowledge management either flourish of fail. It is therefore imperative that cultural changes should occur when planning on implementing a knowledge management program in an organisation or community.

8.2.2 Leadership as a knowledge enabler

Leadership has been the object of study for many years in business, psychology and sociology. A large number of theories have been developed over the years, each focussing on different aspects of leadership. House and Mitchell (1974) developed a theory of leadership styles bases on expectancy theory and motivation, and identified four leadership styles; directive leadership, supportive leadership, participative leadership and achievement-orientated leadership. McClelland and Burnham (1995) focused on a different aspect of leadership and describe the characteristics, motivation and behaviour of successful leaders. In contrast, Avolio, Bass and Dong (1999) describe six factors associated with leadership; charisma, intellectual stimulation, individualised consideration, contingent reward, active management and passive-avoidant. Beck and Yeager (1994) indicate that a leader should be a director, a problem solver, a developer and a delegator while Porter-O'Grady and Malloch (2002) identified ten principles of successful leaders.

Investigating relevant literature on leadership and leadership styles in order to explore the impact of leadership on knowledge management, proved to be a cumbersome and complex task. The majority of articles published in academic journals as well as relevant books on leadership, do not view leadership or leadership styles in the context of knowledge management. For the purposes of this dissertation, it was decided to utilise the results of a recent study on leadership, conducted by a consultancy firm Hay & McBer (Goleman, 2000). The study drew a random sample of 3 871 executives from a database of more than 20 000 executives worldwide. They identified five distinct leadership styles, which appear to have a direct and unique impact on the working atmosphere of an organisation, department or a group within a department. They found that the best leaders do not rely on one leadership style; they use most of them seamlessly and in different measure, depending on the specific situation.

Since certain characteristics of certain leadership styles are conducive to the management of knowledge, it was decided to investigate each of these leadership styles and indicate which aspect of the specific leadership style would have a favourable impact on the management of knowledge. The following table provides a

summary of the different leadership styles and the characteristics conducive to the management of knowledge.

Table 1

Leadership Characteristics conducive to knowledge management

Leadership style	Characteristics conducive to knowledge management
Coercive style	• Valuable if employees are reluctant to implement knowledge management principles. • Break outdated business habits and shock employees into new ways of functioning.
Authoritative style	• Provide direction and vision to employees. • Motivate and convince employees of the benefits of following a knowledge management approach.
Affiliative	• Has a positive effect on communication in the organisation. • Instils trust and facilitates collaboration and the mutual attainment of collective goals.
Democratic	• Leader stays in touch with what is happening in the organisation. • Leader can receive ideas and guidance from knowledgeable employees.
Coaching	• Cultivate the abilities of employees and help them advance. • Indicate to employees the value of learning and attaining new knowledge and motivate them to share what they know with others.

8.2.2.1 Coercive style

A coercive leader is someone who governs by force. When a company is in a crisis, it is the type of leader that will make tough decisions, cut jobs and close divisions. It is the type of leader that creates a reign of terror, bullying and demeaning his executives, while roaring his displeasure at the slightest misstep. This type of leadership is the least effective in most organisations and can have a negative effect on the flexibility in the organisation. The extreme top-down approach of such a leader kills innovation and people are unable to act on their own initiative.

Given the impact of the coercive style, it might be assumed that this type of leadership should never be applied within the context of knowledge management. However, the coercive style can be of great value when an organisation is in a crisis or when a turnaround in the organisation is of utmost importance. When employees or

departments manage knowledge unsuccessfully, or reluctant to implement knowledge management principles, this type of leadership can break outdated business habits and shock employees into new ways of functioning. That said, the coercive style should be used with extreme caution and should be discontinued as soon as knowledge management principles are implemented in an organisation. The continuation of this type of leadership style can have a negative impact on the morale of the organisation.

8.2.2.2 Authoritative style

The hallmarks of the authoritative leader are a vibrant enthusiasm and a clear vision of what needs to be attained. The authoritative leader is a visionary; he motivates individuals and departments by clearly indicating to them how their contribution fits into the larger vision of the organisation. Individuals, groups and departments understand that what they do matters and why it matters. Authoritative leadership also maximises commitment to the organisation's goals and strategy. In addition, the authoritative leader gives people the freedom to be innovative, experiment and take calculated risks, subsequently increasing flexibility and innovation in the organisation.

The authoritative style is the ideal style to adopt when employees in an organisation are open minded in terms of knowledge management, but need some direction. The authoritative leader can motivate and convince employees of the benefits of following a knowledge management approach. This type of leadership style can create an environment in which employees feel confident to experiment and innovate, while giving them the freedom to suggest novel ideas related to knowledge management in the organisation.

8.2.2.3 Affiliative style

The affiliative leader values people and their emotions more than tasks and goals. This type of leader strives to keep employees happy and aim at creating harmony amongst them. He/she manages by creating strong emotional bonds, which

consequently makes employees loyal to him/her. The affiliative leader rewards employees for their accomplishments and recognises and develops their strong points. He/she provide employees with feedback and are masters at building a sense of belonging.

In terms of knowledge management, the affiliative leader has a markedly positive effect on communication in the organisation. People who like each other talk a great deal and they are comfortable with sharing ideas and inspirations with each other. In addition it instils trust, which makes it easier for employees to acknowledge when they have a problem. It also creates a sense of belonging that facilitates collaboration and the mutual attainment of collective goals.

8.2.2.4 Democratic style

The democratic leader spends time listening to other people, obtaining their ideas an attaining the buy-in from everyone involved. This type of leadership approach builds trust, respect and commitment. By letting employees have a say in decisions that affect their working environment, this type of leadership style increases flexibility and responsibility. By listening to the concerns of employees, the leader is in touch with what is happening in the organisation and can explore suggestions for improvements made by employees.

The democratic leadership style could be valuable when the leader is unsure of which direction to take and need ideas and guidance from employees. This type of leadership could be valuable when implementing a new knowledge management strategy and the leader himself/herself is uncertain of certain aspects related to the management of knowledge. If the leader has a strong vision in terms of knowledge management, the democratic style enables him/her to receive fresh ideas from employees on how to execute the vision. However, this type of leadership should be employed with caution as it can lead to endless discussions where ideas are mulled over without reaching consensus. It is also a dangerous style to follow if employees are not competent or knowledgeable enough to offer sound advice.

8.2.2.5 Coaching style

Coaching leaders assist employees in identifying their own strengths and weaknesses and tie them to their personal and career aspirations. They encourage employees to establish long-term development goals and assist employees in conceptualising a strategy of attaining them. They provide employees with instruction and feedback and collectively agree on the roles and responsibilities of employees. They provide employees with challenging assignments, willing to accept short-term failures if it furthers long-term learning.

This type of leadership style is conducive to the management of knowledge, since employees get a sense of how cultivating their abilities can help them advance. This type of leadership style makes employees conscious of the confidence the leader has in them and the time and energy that the leader is willing to invest in them. This type of leadership style makes employees aware of the value of learning and motivate them to share what they know, increasing the knowledge base of the entire department and organisation.

8.2.2.6 In conclusion

Leadership in an organisation, government department or community can only contribute to knowledge management, i.e. be a knowledge enabler, when the leaders are sensitive to the impact they have on others in the group, department or organisation. Not only should leaders be conscious about the influence they have on others, but also adjust their leadership style in order to promote the management of knowledge. As indicated, certain features of each leadership style can be employed in a specific way to have a positive effect on the management of knowledge. Circumstance and situations in organisations, departments and communities are continuously changing and the leader has to be able to respond to these changes. Similarly, each person on a team or in a group has his or her own personality, characteristics, strengths and weaknesses. A leader that only utilises one type of leadership style is destined to fail. It is imperative for a leader who wants to manage knowledge effectively in his/her organisation, to acquire the complete repertoire of

leadership styles enabling him/her to deal effectively with specific knowledge management challenges.

8.2.3 Organisational structure as a knowledge enabler

8.2.3.1 Organisational structure and knowledge management

The structure within an organisation has a decisive influence on the functioning of the organisation. Nonaka and Takeuchi (1995), indicate that, as knowledge and innovation became more central to the success in organisations, there has been a growing dissatisfaction with the traditional structure in organisations. Mats (1995) define organisational structure as the sum of ways in which work tasks are distributed amongst different units and roles, and how tasks and roles are coordinated. In other words, organisational structure is a result of the divisions of labour and the formal authority hierarchy. Therefore, the way responsibilities are distributed and coordinated, as well as the hierarchy in the organisation, influences the way in which knowledge is managed. The last century was characterised by an oscillation between two basic types of organisational structures. The subsequent section will investigate these two types of organisational structures and indicate that a synthesis between these two types is necessary to effectively manage knowledge.

8.2.3.2 Bureaucracy

A bureaucratic structure is highly formalised, specialised and centralised and depends on the standardisation of work processes. It is based on a hierarchy of authority and is designed to conduct routine work efficiently on a large scale. The bureaucratic structure is commonly found in government departments, since it is the most effective way to conduct routine work efficiently.

However, the bureaucratic style can hamper the effective management of knowledge, since it hampers individual initiatives. Burns and Stalker (1961) describe a bureaucratic structure, as a mechanical system that only works well in a stable

environment and is extremely dysfunctional in periods of uncertainty and rapid change. In the light of the rapid political and social changes in South Africa during the past ten years, and in terms of changes necessary to implement an effective knowledge management strategy, it is clear why this type of structure is not the most efficient structure to adopt in government departments.

8.2.3.3 Adhocracy

Adhocracy or "task force" structure was specifically designed to address the weaknesses of bureaucracy. Nonaka and Takeuchi (1995) indicate that adhocracy is flexible, adaptable, dynamic and participative. The "task-force" principle evolved from military operations to organise forces for specific purposes. Organisations with this type of structure, is characterized by institutionalised teams or groups that join representatives from a number of different units or disciplines on an intensive and flexible basis, in many cases to deal with temporary issues. These teams work within a specific timeframe and all energy is directed at attaining a specific objective.

In relation to the management of knowledge, the adhocratic structure has its limitations. Because of the temporary nature of these teams, knowledge created during specific projects is not easily transferred to other members or divisions in the organisation after the project has been completed. National Government also has a certain adhocracy nature to them. Various departments or various groups in a department, regularly work on individual research or development projects. The knowledge created during these projects is almost never transferred to other groups in the department or to similar departments in other provinces. Adhocracy is therefore inappropriate for exploiting and transferring knowledge continuously and widely throughout National Government. Different departments in different provinces could be viewed as small-scaled task force teams and are therefore incapable of setting and achieving the macro goals and visions of National Government.

8.2.3.4 Rationale for a synthesis of organisational structures

Nonaka and Takeuchi (1995) as well as Mats (1995) indicate that each of these two structures has certain benefits for the management of knowledge. To effectively manage knowledge, an organisation should be equipped with the strategic capability to exploit, accumulate, share and create knowledge continuously and repeatedly in a dynamic process. From this point of view, the bureaucratic organisation is effective in bringing about combination and internalisation and is the more appropriate structure for the exploitation and accumulation of knowledge. On the other hand, the adhocratic organisation is suitable for socialisation and externalisation and is therefore, the more appropriate structure for the effective sharing and creation of knowledge. In terms of effective knowledge management, National Government should pursue both the efficiency of a bureaucracy and the flexibility of the adhocracy, therefore a synthesis of the two is needed to provide a solid base for knowledge management.

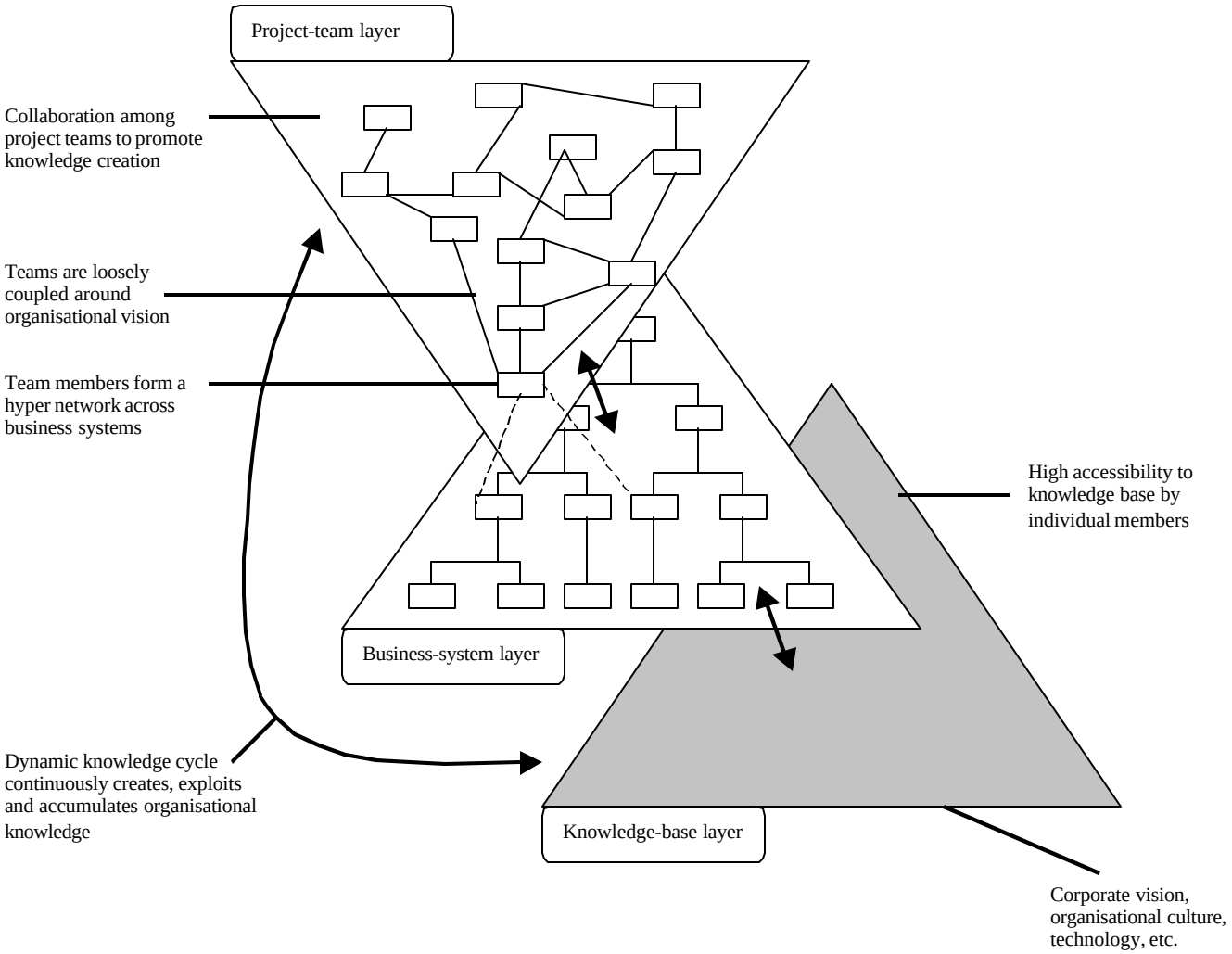
8.2.3.5 The hypertext organisation

Nonaka and Takeuchi (1995) uses the metaphor of “hypertext” to describe the synthesis between adhocracy and bureaucracy. Hypertext was originally developed in computer sciences and consists of multiple layers of texts, while conventional text basically has only one layer – the text itself. Text on a computer screen may be paragraphs, sentences, charts or graphics. Under a hypertext, each text is usually stored separately in a different file. When text is needed, an operator can key in a command that pulls out all the text on the computer screen at one time, in a connected and logical way. A hypertext provides the operator with access to multiple layers. The essential feature of a hypertext is the ability to get “in” and “out” of multiple texts or layers. These layers should be interpreted as different “contexts” that are available.

Like an actual hypertext document, a hypertext organisation is made up of interconnected layers or contexts: the business system, the project team and the knowledge base, as shown in figure 18.

Figure 18

Hypertext organisation



Hypertext organisation. Source: Nonaka & Konno (1993)

The **business-system layer** is the central layer in which normal, routine operations are carried out. Since a bureaucratic structure is suitable for conducting routine work, this layer is shaped like a hierarchical pyramid.

The **project-team layer** is the top layer where multiple project teams engage in knowledge-creating activities, such as the development and evaluation of new products or services. The team members are brought together from a number of different units across the business system, and are assigned exclusively to a project team until the project is completed.

The **knowledge-base layer** is at the bottom layer where organisational knowledge generated in the top two layers is recategorised and reconceptualised. This layer does not exist as an actual organisational entity, but is imbedded in the corporate vision, organisational culture and technology.

8.2.3.6 Functioning of the hypertext organisation

The hypertext organisation is unique in the fact that the three layers or contexts, coexist within the same organisation. A key characteristic of the hypertext organisation is the ability of its members to shift contexts. They can move among the three contexts in order to accommodate the changing requirements of situations, both inside and outside the organisation.

The process of organisational knowledge creation is conceptualised as a dynamic cycle of knowledge, traversing easily through the three layers. Members of a project team on the top layer, who are selected from diverse functions and departments across the business-system layer, engage in knowledge-creating activities. Their efforts may be guided by the corporate vision and culture in top management. Once the team completes it's task, members move down to the knowledge-base layer and make an inventory of the knowledge created and/or acquired during their time with the project team. This inventory includes both successes and failures, which are documented and analysed. After categorising and recontextualising the new knowledge, team members return to the business-system layer and engage in routine operations until they are required for another project. The ability to alternate among the different contexts of knowledge swiftly and flexibly, so as to form a dynamic cycle of knowledge creation and dissemination, ultimately determines the organisations' capability to create knowledge.

A hypertext organisation, which is the synthesis of both the bureaucratic structure and task force structure, reaps the benefits of both. The bureaucratic structure efficiently implements, exploits and accumulates new knowledge through internalisations and combination, while the adhocracy structure is indispensable for generating new

knowledge through socialisation and externalisation. In addition, it ads another layer, the knowledge base, that serves as a "clearinghouse" for the new knowledge generated in the business-system and project-team layers. The bureaucracy is more adept to accumulate operational and systemic knowledge, while the project team generates conceptual knowledge. The role of the knowledge-base layer is to "mix" these different contents of knowledge and recategorise and recontextualise them into something more meaningful to the organisation at large.

In addition, the hypertext organisation has the capability to convert knowledge from outside the organisation. A hypertext organisation is an open system that also features continuous and dynamic knowledge interaction with experts, clients and other organisations.

8.2.3.7 Transition to a hypertext organisation

Within the context of this dissertation the transformation of National Government as a bureaucratic organisation to a hypertext organisation requires two distinct changes. The first is the refinement of the adhocratic structure. Although different government departments could be viewed as "task teams" the structure and functioning of these teams are different from what is suggested in the hypertext organisation. The members of the task team remains the same throughout different projects and other members within the organisation (and outside) are not incorporated during individual projects. This leads to a situation where the task team is essentially isolated from the rest of the organisation and knowledge attained during project are therefore isolated and not disseminated throughout the organisation. The second change that needs to occur is the development and expansion of the knowledge-base layer. The knowledge base layer refines newly created knowledge and is, in addition, instrumental for the transference of new knowledge to the entire organisation. The knowledge base is embedded in the organisational culture and the technology utilised in the organisation. It is therefore imperative that these elements of the knowledge-base layer are transformed in order to develop the knowledge-base layer of National Government.

8.2.3.8 In conclusion

The hypertext organisation provides the ideal structure to create and disseminate knowledge within the organisation and is made up of three different layers. In order to transform National Government into a hypertext organisation, special attention needs to be given to how information is transferred from the project-team layer to the business-system layer. A central part that enables this transference is the knowledge base layer in the organisation. One of the central themes within the knowledge-base layer is the capturing and reorganising of knowledge in order to transfer reconceptualised knowledge into the entire organisation.

The subsequent section will discuss the remaining knowledge enabler; knowledge preservation, which is necessary to develop the knowledge-base layer of the organisation.

8.2.4 Knowledge preservation

Knowledge preservation is an important element in the knowledge management framework. However, there is a qualitative difference between viewing knowledge preservation as a phase during the knowledge management process and viewing knowledge preservation as a knowledge enabler. The subsequent section will clarify these differences.

8.1.4.1 Knowledge preservation as a phase in the knowledge management process

Some practitioners view knowledge preservation as a specific phase during the knowledge management cycle. This is a restricted view of knowledge preservation and diminishes its effectiveness and overall value. When knowledge is viewed as a phase during the knowledge management cycle, it usually follows the creation of new knowledge or the elaboration of existing knowledge, subsequently only capturing the created or elaborated knowledge itself. Although it is of utmost importance to capture

newly created or elaborated knowledge, the preservation of knowledge should not only be subsequent to the creation or elaboration of knowledge.

8.1.4.2 Knowledge preservation as a knowledge management enabler.

When knowledge preservation is viewed as a knowledge enabler, the capturing of knowledge can enhance the entire knowledge management process and lead to an increased understanding of the entire knowledge management initiative. Every aspect of the knowledge management initiative should be captured and preserved. For instance, if certain difficulties or challenges arise during the knowledge management process, the reasons behind these occurrences should be captured and preserved, in order to inform changes relating to the entire process. Likewise, the methods used to identify knowledge gaps, mobilise and disseminate knowledge, as well as the techniques utilised to evaluate the new knowledge, should be preserved.

By viewing knowledge preservation as an enabler, it becomes more important to document the process, instead of only documenting new knowledge that has been created. Techniques utilised, as well as the results obtained during the transformation of the other knowledge management enablers, should also be documented and preserved. If preservation techniques only focus on the documentation of new knowledge, several valuable insights obtained during the implementation of the knowledge management initiative will be lost. As indicated by Thach and Woodman (1994) knowledge preservation should enable organisations to increase the effectiveness of knowledge management processes, by focussing on knowledge management instead of knowledge. By documenting the entire spectrum of knowledge management activities, knowledge preservation becomes a facilitator that informs and improves subsequent knowledge management endeavours.

8.2.5 In conclusion

It is important to realise that the knowledge management enablers discussed in this chapter are interconnected and mutually influence each other. The organisational

culture (openness, loyalty, generosity, humility) has an effect on the leadership style employed by leaders in the organisation. Whether the leader is predominantly coercive, authoritative, coaching, affiliative or democratic, influences the culture of the organisation. Likewise, if the organisational structure is too bureaucratic or too task force orientated, it will influence the leadership styles employed in the organisation, as well as the culture in the organisation. It is therefore of utmost importance that all the knowledge enablers should be investigated and transformed to ensure that they support each other instead of oppose each other.

Each of the enablers on their own will have a limited effect on the knowledge management processes. In contrast, a combination of knowledge management enablers will provide an environment that is conducive to knowledge management and increase the likelihood of success.

CHAPTER 9

PRACTICAL SUGGESTIONS FOR IMPLEMENTATION – THE ENABLERS

9.1 INTRODUCTION

The preceding chapter indicated the importance of knowledge enablers for the effective management of knowledge and described how each of the enablers can support the overall knowledge management initiative. The current chapter will provide certain practical suggestions for implementing the knowledge enabler while chapter 10 will discuss the practical implementation of the knowledge processes.

According to Ichijo, Von Krogh and Nonaka (1998) knowledge enablers have three significant roles. Firstly, knowledge enablers should stimulate individual knowledge development. Secondly, knowledge enablers should protect and facilitate knowledge development in organisations. Thirdly, knowledge enablers should facilitate the sharing of individual knowledge and experience among organisational members, in order to transform individual knowledge into organisational knowledge. In order to accomplish these objectives, it is necessary to "institutionalise" the knowledge enablers in organisations active in the community. The enablers – organisational culture, organisational structure, leadership and knowledge preservation – are present in organisations and the community. However, they might not be conducive to the management of knowledge and subsequently, the objectives, as described by Ichijo et al. (1998) might not be attained. It is therefore imperative that the knowledge enablers should be transformed to support the knowledge management initiative.

9.2 CREATE A KNOWLEDGE CULTURE.

Different organisations or institutions have different cultures; there can even be different cultures within the same organisation. The culture of an organisation or community can be described as the shared values, as well as the patterns of thinking and behaving, that shape the behaviour and perceptions of its members (De Long & Fahey, 2000). Put differently, it is the rules of conduct that govern how people think, how they behave, as well as the motivations for their behaviour. The culture in an organisation or community is inherited by new members, either through socialisation or adhering to formal rules and regulations (Yu & Knapp, 1999). The culture in an organisation is usually shaped by the company policy; service standards or mission statements, while the culture in rural communities are governed by laws, informal principles and morals.

Within the rural community, the local culture is established through socialisation with other community members, education, religion, trends and parenting. Each government department as well as other organisations in the community, have their own culture that governs the behaviour of its members. Each of these organisations and groups in the community has, in addition, a specific *knowledge* culture that is imbedded in the organisation or group. Cultural ground rules shape how people interact and have a major impact on knowledge creation, sharing and use (Cooke & Szumal, 1993).

The success of a knowledge management initiative in a rural community is dependant on changes in the knowledge culture of government departments, non-governmental organisations and the community as a whole. It is imperative that everybody should embrace knowledge and the management thereof and establish an ethos where everyone views knowledge as an important resource. Knowledge is the collective expertise (Laszlo, 2001) of everyone in the community and forms the intellectual capital of the community. This asset, just like all other assets, should not only be managed by government employees, but by community members as well.

Since knowledge is the sum of everything that everyone in the community knows, the management thereof is the responsibility of everyone. It is therefore important to realise that instituting knowledge management in government departments and the community, is not dependant on employing new staff or establishing new departments. Instead of *adding* new "knowledge management groups", knowledge management should be *imbedded* in the community and government departments as they currently function.

To change the knowledge culture in order to facilitate the management of knowledge, four perspectives need to be instilled in government departments and the community.

9.2.1 The value of knowledge

The first step is to make everyone aware of the importance of knowledge. It is necessary to inform and convince individuals and groups, of the value of knowledge and that everyone can benefit from knowledge. Individuals and groups should value their current body of knowledge and attempt to attain new knowledge. The most effective way to achieve this is by using examples of previous successes. This will encourage individuals and organisations to accumulate and utilise knowledge. It is important that everyone perceives themselves as part of the same learning community and realise that they too can make a valuable contribution to the knowledge base of the entire community. This will result in a change in attitudes towards all knowledge in the community and provide the foundation for successful knowledge management.

9.2.2 An ethos of sharing

The second important attitudinal change, relates to the desire and willingness of individuals and groups to share knowledge. A large number of individuals in rural communities as well as government employees still believe in the saying "knowledge is power" and are reluctant to share their knowledge with others. Not only should government employees and community members be encouraged to share their knowledge, but should, in addition, be taught to accept and utilise knowledge from

other individuals. Community members should be encouraged to trust information and knowledge from other sources and acknowledge the contributions of others.

9.2.3 A desire to learn

Government employees and community members should be encouraged to learn and should be rewarded for new knowledge they have gained and applied. There are various forms of learning, apart from formal courses or training workshops, and community members and government employees should be made aware of this. Valuable lessons can be learned through daily interactions with other individuals and groups in the community.

9.2.4 Norms to promote knowledge creation

Norms are socially created expectations about acceptable organisational attitudes and behaviour. Schneider (1976) identified two specific norms that he believes will create an environment that is conducive to the creation of new knowledge.

9.2.4.1 Support risk taking and change

Individuals and groups should be supported and rewarded when they take risks and try out new ideas. Even if the attempts fail, employees should be acknowledged for exhibiting entrepreneurial qualities. Recognising innovative attempts by providing employees with “trophies” or rewards will encourage employees to be innovative and create a culture that is conducive to the creation of new knowledge.

Another way to encourage creativity and the pursuit of new knowledge is to promote a positive attitude towards change. You must provide employees with the message that challenging the status quo is accepted. At Odetics, a small aerospace company in the U.S., management has an explicit policy of “structured spontaneity,” which refers to a policy of deliberately not institutionalising things. Promoting risk taking and

change can provide an environment where employees are constantly searching for new and improved methods and procedures and will ultimately lead to the creation of new knowledge. Allee (1997) indicate that, for knowledge management to be effective, it is necessary to create an environment where constant learning and experimentation are highly valued, appreciated, and supported.

9.2.4.2 Tolerance of mistakes

When companies do not tolerate mistakes and punish those who do make mistakes, little creativity occurs, which subsequently leads to insufficient creation of new knowledge. However, mistakes should only be permitted if they are based on analysis, foster learning and are modest in impact. An example provided by Tushman and O'Reilly (1997) indicate how both the aforementioned norms can be stimulated and promoted in an organisation. The president of Alagasco, a natural gas distributor in Alabama, passed out cards to all his employees encouraging them to try out different things. He explained that the card is like a "get-out-of-jail-free card" in Monopoly. If employees try out something and it fails, they can turn in their card and be forgiven. Underneath this seemingly silly behaviour is a serious message: It's OK to think outside the box.

Although government departments are sometimes reluctant to provide employees with the leeway to take risks and accept mistakes made by employees, these guiding rules of behaviour can create a culture within National Government that will encourage innovation and stimulate the creation of new knowledge.

9.2.5 In conclusion

It is important to investigate the current culture that exists in the community and government departments. If the current culture focuses on stability and preserving the status quo, it should be changed to embrace learning, change and progress. Old habits, like working in silos or reinventing the wheel, should be addressed and members should be motivated and encouraged to change their usual way of functioning.

Since norms, attitudes and behaviours are entrenched in the "persona" of government departments and government employees, such changes are not always straightforward. Bagshaw (2000) indicate that it takes time to build a culture of shared knowledge and shared development of ideas. Creating a culture that appreciates and values knowledge should therefore be seen as a long-term goal, which requires a paradigm shift in all its members. Government employees and community members should build strong interpersonal relationships with each other and have productive conversations, where they can share their ideas and collectively reflect on what they have learned. Without a change in the underlying culture that guides the behaviour of government employees and community members, the effective management of knowledge is difficult to achieve.

The current knowledge management culture in government departments, as well as the community, and the paradigm shift that needs to occur, is directly related to the principles and beliefs of the leaders in the department or community. The subsequent section will focus on the elements that need to be considered by the leaders in government departments and communities, to support the management of knowledge.

9.3 LEADERSHIP STYLE

9.3.1 Introduction

The knowledge culture that exists in government departments and rural communities is directly related to the principles and values of the leaders in the government department or community. A large number of management practises and human resource policies focus on the competencies and skills of the individual and reward individual efforts. These are short-term goals that focus on immediate returns, instead of focusing on long-term investments in the entire employee base of government departments.

For knowledge management initiatives in rural communities to be successful, national and provincial government, as well as leaders in the community, need to be committed to the process of knowledge management. It is the responsibility of top management structures to provide the resources and guidance that will facilitate the effective management of knowledge (Cantor, 2002). Without buy-in on all levels, especially from top management, the success of knowledge management activities could be obstructed. For knowledge management to be effective, the design and implementation of strategies should be guided and supported from the top and initiated and accepted from the bottom (Barker, 2001).

When initiating a knowledge management approach, the leadership of the particular government department or community group should take responsibility for the following decisions.

9.3.2 Identify the central objectives of knowledge management

It is important to establish the central objectives that would guide the knowledge management initiative. These objectives should be explicitly stated and known to everyone involved in the knowledge management initiative. The knowledge management objectives for government departments might be to increase collaboration and utilise the knowledge of experienced people in various departments or the community. On the other hand, National Government could benefit from the effective dissemination of knowledge, subsequently increasing the usefulness of existing knowledge. Whatever the objectives, the leaders in the community and government departments should have consensus about what they intend to accomplish and communicate this effectively to all stakeholders.

9.3.3 Scope and levels of knowledge management

The second important decision that should be made community leaders as well as leaders in government departments, is to establish the scope and the levels on which knowledge should be managed. Should knowledge management be instituted for

different groups or departments or should it be implemented throughout National Government. Knowledge management can also be implemented in individual projects or individual departments to attain specific goals.

Another important factor that should be considered is the type of knowledge that should be managed. Should government departments focus on transferring tacit knowledge into explicit knowledge, or should they focus on making passive knowledge active?

Is it imperative that the levels, on which knowledge should be managed, as well as the scope of knowledge management activities, should coincide with the objectives of the knowledge management process (Davenport & Prosak, 1998).

It is proposed that initial knowledge management initiatives in government departments should be implemented in small discrete projects, in order to yield early results. One might start with a small project that would remove some type of frustration government employees experience while performing their daily duties. Unless government employees and community members feel that the initiative will improve their lives, they might be reluctant to invest time and effort in such an initiative. As soon as government employees and community members reap the benefits of such a project, they will be motivated to invest time and energy in future knowledge management endeavours.

9.3.4 Organisational roles

It is imperative to establish the roles and responsibilities of individuals, groups and organisations involved in the knowledge management initiative, as well as the associated competencies necessary to fulfil these roles. These roles and responsibilities should be clearly defined in order to guide all the people involved in the project. Each individual, group and government department active in the rural community should understand their function within the larger framework of community knowledge management.

9.3.5 In conclusion

A firm commitment from community leaders and leaders in government departments, is imperative for the successful management of knowledge. Without the guidance and direction from the leaders in National Government, government employees and community members will be unmotivated and uninspired to contribute to the knowledge management initiative. The underlying principles that guide the attitude and behaviour of the leaders should encourage innovation, collaboration and continuous learning.

9.4 ORGANISATIONAL STRUCTURE

9.4.1 Introduction

Closely related to the leadership style, is the organisational and community structure that exist in a government departments and the community. The structures in government departments and the community should facilitate the communication and collaboration between individuals and groups. These structures or networks should facilitate the sharing and transfer of information and knowledge. The structures should facilitate the dissemination of information and knowledge, and ensure that appropriate information and knowledge is available to the right people, at the right time and in appropriate formats (Martensson, 2000). By doing this, government departments and the rural community can become structured around knowledge and the way it is applied, instead of around specific functions of individuals or groups.

The structures in the community and within government departments should be investigated and changed if necessary. It is imperative that these structures are multi-dimensional. On the one hand, the structures should be stable to promote order and instil trust in the system. As explained in the previous chapter, the bureaucratic hierarchy found in National Government provides a structure that promotes order. On the other hand, the structures should be flexible enough to encourage innovation and

learning. The ideal structure to promote collaborative learning is the task force or adhocracy. At present, it is this type of structure that is lacking within National Government. It is therefore imperative that a type of structure that focuses on assembling different individuals from different disciplines, are put into practice. This type of “temporary project team” can provide a sensible framework for the dissemination of information, in which people can communicate unhindered. A practical and extremely effective way to address this problem is to establish communities of practise.

9.4.2 Community of Practice.

A community of practice (CoP) is a group of individuals who share a particular interest and come together to share information and knowledge, in order to learn from each other. McDermott (2000) indicates that:

> Communities of practice are typically held together by a common interest in a body of knowledge and are driven by a desire and a need to share problems, experiences, insights, templates, tools and best practises, through interaction.

The term Communities of Practice might be new, but the concept is not. Wegner, McDermott and Snyder (2002) indicate that communities of practice was our first knowledge-based structures, back when we lived in caves and gathered around the fire to discuss cornering prey, the shape of arrowheads, or which roots were edible.

We all belong to a community of practice. This CoP can be at work, at home with our family, the group of people with which we socialise or the people with whom we participate in a sport. Each of us can additionally belong to many different CoP and also change the CoP we belong to during our lifetime. Members of a community do not necessarily work together every day, but the community is established because they find the interaction between the members valuable.

Communities of practice are therefore something that is familiar to each of us, although they mostly exist informally and membership is not always explicitly stated (McDermott, 1999). They develop naturally as people with common interest share ideas and collaborate. However, where they previously didn't receive much attention, the current need for a more active and methodical approach to the management of knowledge, has highlighted the importance of CoP (Wenger, 2000). Communities of practise can provide an official structure in the community or government department that encourages everyone to share their knowledge and experiences. Horizontally it attempts to connect individuals from various departments, occupations or groups, while it vertically connects individuals who have different levels of seniority in the community or organisations (McDermott, 2000). A CoP is a sensible way to address the knowledge management structures that currently exists in government departments and rural communities.

Not only is CoP necessary for *formal* knowledge sharing, but also, CoP can provide a "soundboard" for community members. Community members and government employees indicated that there are almost no organised groups where community members can discuss their problems, challenges and experiences. Social workers who participated in the focus groups, indicated that the establishment of support groups would be of great advantage. A large number of community members share similar experiences and problems. For instance, community members who were sexually or physically abused, or those that have a drug or alcohol problem, can meet and share their experiences and challenges. Support groups of various kinds can meet on a regular basis and provide a setting where community members can share their feelings and discuss possible solutions to their problems.

From their experiences, Wegner et al. (2002) derived seven principles that should form the foundation when designing a CoP. These principles where developed by focusing on the problems and difficulties when establishing CoP and provides a guideline for implementing CoP in government departments and rural communities.

9.4.2.1 Design for evolution

The design and functioning of CoP is usually very informal. Communities are usually formed, or already exist, in the form of personal networks or groups of people with the same interests. New members who join the CoP provide a new outlook, while other members that leave take their thoughts and perceptions with them. Changes and new challenges within government departments or community have an impact on the effect or importance of a specific CoP, at a specific time. If a new problem or opportunity is closely related to the activities of the CoP, it could lead to an increase in the number of it's members or the status it has in the organisation or community. On the other hand, if the community focuses on "outdated" issues, they might lose members or have a diminished influence on their environment. Communities of practice are therefore, continually redesigning themselves according to the external environment, particular problems, or the changing views of its members. It is this dynamic nature of CoP that ensures continual renewal and the evolution of a CoP. This evolution symbolises the concept of lifelong learning and should be encouraged within all CoP.

9.4.2.2 Open dialogue between inside and outside perspectives

An insider's perspective is necessary to guide the CoP in terms of the current challenges facing the domain and the sharing of knowledge that is relevant to these issues. You need someone who understands the members in the CoP, as well as the goals of the CoP. In addition, for a CoP to realise their true value and worth, it sometimes requires the contributions of outsiders. Outsiders can provide examples of how CoP function in other organisations or communities and make community members aware of their potential and what could be achieved.

In the rural community, CoP in government departments might include ordinary community members, to provide an "outside" perspective on the issues that the CoP should focus on. It is therefore important not to limit participation in the CoP to people within your own group, department or community, but to include outsiders with diverse perspectives.

9.4.2.3 Invite different levels of participation

People participate in CoP for various and different reasons. Some receive meaning, as it enables them to share what they know, while others attend to improve their skills or knowledge. Others might simply be there to enjoy the personal interaction with people sharing the same interests. Some of the members form the core group of the community and can be seen as the leadership in the community. Other members participate on a regular basis but without the enthusiasm and intensity of the core group, while others members are peripheral and rarely participate.

Members of the community continuously move through the different levels. Core members can sit on the sideline if the topic does not interest them, while inactive members can become active for a while when they can contribute more to the community. For communities to be successful, participation on different levels should be encouraged. Communities of practice in the rural communities should have members that come from government departments, NGO's, the community itself as well as businesses and other organisations active in the community.

9.4.2.4 Develop public and private community spaces

Most communities have public events, which are open to all members of the CoP, where people gather to discuss their problems, share ideas and find solutions. They might include formal presentations or informal discussions of current issues. However, informal private meetings also form part of the CoP, where members discuss new challenges or situations in private. These discussions are valuable to stimulate the thinking of members and provide valuable direction and ideas for public meetings.

The author was involved in various projects in collaboration with employees from the Department of Social Services, Population and Development and had various informal meetings with employees. In one of these meetings the concept and value of arranging a meeting between government employees, community members and researchers, to identify future research objectives, were discussed. This informal

discussion provided the impetus for the Department of Social Services, Population and Development to arrange such a meeting between the various stakeholders. The meeting turned out to be a success and planning for similar meetings in the future is already underway. Communities of practise should therefore encourage activities in both domains, since the strength of individual relationships can enrich public events and public events can strengthen individual relationships.

9.4.2.5 Focus on value

Communities can only thrive when they create value for their members, the community and Government. Because participation is usually voluntarily, creating value is of utmost importance. The value of the community is not always visible at the onset, but this should not discourage participation or the establishment of new communities. As the community grows and shift its attention from one issue to another, the value it creates changes and becomes more visible. The value of a particular idea can sometimes be seen only months after the idea was voiced, since it takes time to implement the idea and allow it to transform the current situation. It is also important that members of the CoP explicitly state the value of the community and what it means to them. This will make other government employees and community members aware of the value of the CoP, which in turn will encourage continuous participation. Members of the CoP as well as other individuals in government departments or larger community should be made aware of the value and sometimes delayed results of the CoP. This will encourage government employees and community members to participate even if they don't recognise the immediate benefits.

9.4.2.6 Combine familiarity with excitement

The community should firstly offer a familiar environment where people feel comfortable to share their ideas and discuss problems and difficulties they face. Individuals should have the freedom to ask questions and the confidence to provide inputs. In addition, the community should also supply divergent thinking and

activities that challenge the existing thoughts of community members. By doing this, the community can provide excitement to its members that compliments the familiarity of the environment.

9.4.2.7 Create a rhythm for the community

A vibrant CoP should have a rhythm that isn't to fast and neither too slow. When the rhythm is too fast, members become overwhelmed, if the pace is too slow, members might feel lethargic and unproductive. Regular meetings, conferences, and informal gatherings provide the community with a rhythm that encourages participation. While the rhythm of the community is likely to increase as the community develops and evolves, it will also change in relation to various projects they are involved in. The rhythm of the community is a strong indicator of its enthusiasm and the right rhythm should be found to energise the community and its members.

9.4.3 In conclusion

Although a CoP can, and in most instances do develop naturally, this was not found in the three rural communities visited during the Situation Analysis. The above-mentioned guidelines could assist in designing sustainable CoP in rural communities. As soon as community members and government employees experience the value of sharing and receiving information and knowledge, the CoP will flourish and provide much-needed support and guidance to its members.

Where informal structures and groups do exist, the above-mentioned guidelines could alter the perspectives of government employees and community members and could transform existing structures and groups into knowledge sharing units. Communities of practice can provide the necessary task force structure, enabling government employees and community members to learn form each other and benefit from each other's knowledge and experience.

9.5 PRESERVATION OF KNOWLEDGE

9.5.1 Introduction

Some authors and practitioners view knowledge preservation as a phase during the knowledge management process. The author is of the opinion that knowledge preservation should happen continuously and not subsequent to the creation of new knowledge. Knowledge preservation should be seen as a knowledge enabler that can either improve or hamper the effectiveness of future knowledge management endeavours.

The preservation of knowledge has two major objectives. The first objective is to combat the loss of knowledge by capturing and preserving knowledge for future use. The second objective is to make knowledge readily available so people can find the knowledge easily when they need it. The subsequent sections will describe various practical aspects related to the preservation, capturing and retrieval of knowledge and the role of technology in knowledge preservation.

9.5.2 Mapping organisational knowledge

Organisations that value knowledge want to know how and where to access it. One of the most effective ways to accomplish this is to create a “knowledge map”. Although knowledge maps can come in various formats, the underlying purpose of mapping knowledge is the same; to guide people in the organisation towards knowledge resources. Knowledge maps show where the knowledge and expertise in an organisation is located – in whose heads, for example.

Knowledge maps can either be computerised or paper based. Computerised knowledge maps in an organisation can be an online “lessons learned” database utilising hypertext links to directories, abstracts and documents. As an example of a paper-based map, Chevron, a San Francisco based company developed what they called a “Best Practices Resource Map. ” It unfolds much like a typical road map and

serves as a kind of corporate “yellow pages” with a guide to groups, networks, conferences, forums and documents. The challenge for paper-based systems is keeping them updated, as some employees leave the company, new employees join and knowledge “nodes” renew and change.

Knowledge maps in rural communities could take the form of brochures or information booklets that contain the names, telephone numbers and locations of informed people in the community. Brochures and booklets could become the informal “yellow pages” of the community and put community members in touch with individuals who possess specific types of knowledge. However, the biggest challenge is maintaining these maps, whether paper-based or electronic. As soon as the maps become outdated, people will either stop using them, or contributing to them.

9.5.3 Preserving tacit knowledge

The type of knowledge determines the way in which knowledge is preserved Johannessen et al. (2002). Tacit knowledge that exists inside individuals are difficult to transfer and therefore also difficult to preserve, since the preservation of tacit knowledge depends on the transference of tacit knowledge. Therefore, preservation activities depend on the bearers of knowledge. Tacit knowledge can be preserved through a mentorship or apprenticeship program where the mentor transfers this tacit knowledge to the apprentice. More formal techniques to capture and preserve tacit knowledge include; documentation of workflow processes, communities of practise, internal networks and conferences for knowledge sharing.

A large number of community members and government employees possess tacit knowledge. This knowledge should be transferred to other employees and community members in order for the knowledge to be preserved. A large number of individuals in rural communities possess tacit knowledge that could be transferred to other community members. Community members with sufficient knowledge could teach other community members how to weave baskets, make bricks or prepare traditional

medicines. If these types of tacit knowledge are not shared with the next generation, it might be lost to the community forever.

9.5.4 Preserving explicit knowledge

Explicit knowledge on the other hand is knowledge that is easily articulated, codified and organised for preservation in various forms. Government employees and community members are exposed to knowledge of an explicit nature on a daily basis. They collect this knowledge through their experiences, the processes they follow and from the external environment in the form of clients and customers. Most of this knowledge can be easily captured and preserved, but this preservation often doesn't take place.

Government employees indicated that they sometimes feel frustrated, as there is no system or structure available that could be utilised, to capture and preserve knowledge and experience, which they gain on a daily basis. Sharing new knowledge with other employees or community members will empower them to utilise proven techniques or to avoid similar mistakes.

Explicit knowledge can be easily articulated and a wide variety of mediums can be used to capture and preserve explicit knowledge. These include documents, brochures or pamphlets and various collaboration tools such as, content management systems, document management systems and shared folders or drives.

9.5.6 The use of technology for knowledge preservation

Technology, although an important part of knowledge management has to be put into perspective. Allee (1997) state that just because it is possible to use Information Technology to capture large "chunks" of knowledge, doesn't mean it should be done. Technology is to be used to preserve knowledge, but should be a means to an end, and not an end in itself. Sveiby (1997) state that the confusion between knowledge and information has caused owners of large corporations to pour fortunes into

technological solutions that have yielded marginal results. Although technology cannot ensure creativity and innovation, available technologies could be used to support creativity and innovation.

The subsequent section provides some suggestions on the utilisation of technology to preserve knowledge.

9.5.6.1 Online access

Providing people with access to the Internet enables users to access a wide range of information sources via the Internet. Lately it has become more and more important to have various sources of information readily available

9.5.6.2 Internet and intranet

The Internet can be seen as the largest knowledge management experiment ever attempted. The Internet provides users with many types of information including: discussion groups, newsgroups, text documentation, databases and video conferencing. These forms of interaction facilitate the dissemination of information, facilitate networking and provide people with a global view of what is happening in the world around them.

The intranet can successfully be used to inform government staff about policies, procedures and new developments, while simultaneously providing a structure that can facilitate the development of knowledge repositories.

9.5.6.3 Knowledge repositories

Stated broadly, a knowledge repository is any collection of digital material owned and controlled by an institution or organisation. Knowledge repositories provide an effective way to capture, preserve and disseminate the collective intellectual capital

government departments. A knowledge repository concentrates the intellectual product of all members in the organisation. However, repositories should be carefully designed so that relevant information can be accessed quickly and effectively.

9.5.6.4 Document management

Traditional document management is slowly giving way to electronic document management. Many institutions and organisations find it more and more difficult to work with traditional paper documents, as the number of customers and clients they provide a service to increases on a daily basis.

Another advantage of electronic document management is that documents are seldom lost. Traditional "corporate memory" is only as long as the person creating the document is employed. Document management systems is one of the best ways to retain a corporate memory of what occurred, independent of the people who did it.

9.5.6.5 Keep technology simple

Although technological advances can improve the preservation of knowledge, it should be mentioned that these technologies should be kept as simple as possible. Available technologies are vastly more powerful than the technology we need or use. This is true for PC's, cell phones and also for knowledge management systems. It is therefore imperative that the technology utilised in the preservation of knowledge, should be kept as simple as possible.

Not only should technology be kept simple to increase the usage of such technologies, but also since many individuals in rural communities are computer illiterate. A large number of hospital workers and social workers indicated that they are unable to utilise computers to their full potential because their knowledge of computers and software programs are limited. It is therefore imperative, that any knowledge management effort that employs technology should only be implemented in conjunction with computer training courses.

The following example indicates how technology can be effectively utilised to contribute and enhance the management of information and knowledge. A recent study conducted on orphaned children in Mpumalanga, aimed at collecting demographical and socio-cultural information of orphans in Mpumalanga. The research team suggested that instead of compiling a report of the data as a final product, that all the data collected during the survey should be captured in a database. The suggestion was approved and the database was recently launched at a gala opening together with the website of the Department of Social Services, Population and Development. The database contains demographic as well as socioeconomic data, on more than 30 000 orphans in Mpumalanga. This database can be continuously updated and accessed by any social worker that has access to the Internet. Technology enabled the research team to create a "living document" that could be updated on a regular basis.

Although the Information Technology revolution and the knowledge revolution fuel each other, it is important to realise that the two are not dependant on each other. Knowledge management, especially in rural communities, rely more on the human component than on the technological component. Riley (1998) state:

> It is clear however that a successful shift to the knowledge management paradigm will rely more on social and cultural change than on technology.

9.5.7 In conclusion

The aim of preserving knowledge is to transform personal or individual knowledge into governmental or community knowledge, in order to be retrieved and reused by all the members in the community or government departments.

Not only should different types of knowledge be preserved, but the process of knowledge management should also be captured and preserved. Certain knowledge assets are created as a by-product of other activities or processes and the real value of

the knowledge are unknown at the time of creation. Valuable knowledge can be gained by documenting the positive and negative aspects of the knowledge management processes and knowledge management programs.

CHAPTER 10

PRACTICAL SUGGESTIONS FOR IMPLEMENTATION – THE PROCESSES

10.1 INTRODUCTION

The subsequent chapter will focus on the five knowledge management processes as displayed in figure 14. Although the five processes of knowledge management, e.g. knowledge identification, knowledge mobilisation, knowledge creation and elaboration, knowledge application and knowledge evaluation, have been discussed previously, the subsequent section provides some suggestions for implementing the knowledge management processes in government departments and rural community.

10.2 KNOWLEDGE IDENTIFICATION

Knowledge identification can be seen as a type of meta-knowledge: knowledge about the knowledge and not the knowledge itself (Abou-Zeid, 2002). Not only does knowledge identification relate to identifying gaps in the knowledge, but also implies that the knowledge bearers should be identified. The subsequent section will investigate various methods and perspectives conducive to the process of knowledge identification.

10.2.1 Research and outside expertise

One of the most effective ways to identify knowledge gaps and possible knowledge bearers, is to employ people from outside government departments or the specific community. Although the aim of the Situation Analysis as described in chapter one, was not to identify knowledge gaps, the results did indicate that there is a significant

problem in terms of knowledge and the management thereof. Individual research projects and outside consultants can be effectively used to identify shortcomings and problems associated with the management of knowledge in government departments or the rural community.

10.2.2 Knowledge management as a problem solving approach

Knowledge management should be viewed as a problem solving approach. Problems and challenges in government departments or the rural community related to knowledge can effectively be overcome by a sound knowledge management strategy. Viewing knowledge management from this perspective, the identification of certain problems in the community or government department, is in essence the identification of knowledge gaps. Problems and difficulties in government departments and the community should be identified and their relation to knowledge should be established. If government employees and community members recognise knowledge management as an approach to solve their problems, the identification of knowledge gaps will be integrated into their daily activities.

10.2.3 Internal knowledge identification strategies

There exist an abundance of methods and techniques that could be employed internally to identify knowledge gaps and knowledge needs. Informally this can be done by discussing problems with colleagues and superiors, or through suggestion and complaint boxes that could be utilised by everyone in the department or community. During the Situation Analysis, community members themselves suggested that suggestion/complaint boxes would enable them to communicate with government and subsequently assist government in identifying problems and suggesting solutions. On a more formal basis, internal questionnaires, surveys and staff evaluations could be utilised to identify shortcomings in available knowledge or the knowledge management strategy itself. It is imperative to investigate the skills and knowledge of government employees and identify the knowledge management competencies that staff should posses. During the Situation Analysis an example of internal knowledge

identification was found in the Department of Education. Because of dispersed settlements in rural communities, there are many small schools to accommodate learners in all areas. However, these schools only have a small number of learners and only two or three teachers. Teachers informed the research team that they have to teach between four and seven different subjects and do not possess sufficient knowledge about each of the subjects. If more teachers cannot be appointed, the knowledge base of teachers needs to be enlarged. The previous account indicates that internal knowledge identification is an effective and natural way to determine the knowledge gaps that exist in government departments.

The knowledge identification process is a necessary first step in the knowledge management cycle. It establishes the current state of knowledge and determines whether the knowledge gaps should be addressed through the generation of new knowledge or the dissemination of exiting knowledge. It is imperative to understand the nature of knowledge related problems in government departments and the broader community and how these could be solved, before the processes of knowledge mobilisation, elaboration and generation can be initiated.

10.3 KNOWLEDGE MOBILISATION, GENERATION AND ELABORATION

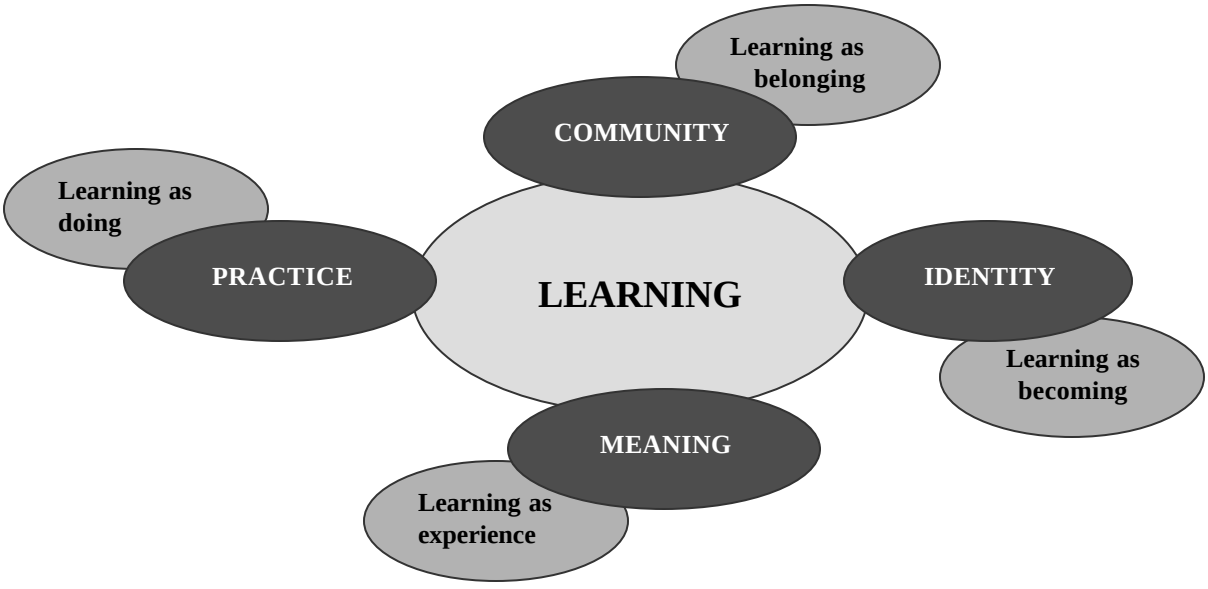
The mobilisation of knowledge is closely related to the elaboration and generation of knowledge. Knowledge mobilisation or dissemination implies that knowledge is shared between two entities, resulting in the elaboration of recipient's knowledge base. Examples from the situation analysis also indicated that, although some problems are primarily related to the mobilisation of knowledge and others to the creation of knowledge, that the two processes are closely related. It was therefore decided to discuss these two processes simultaneously as *learning* through *sharing*.

10.3.1 Learning as social participation

A fundamental aspect that makes the transference of knowledge, from one individual or group to another individual or group possible, is communication. This interaction between individuals and groups is the cornerstone of learning. Wenger (2000) state that we should change our assumptions about how we learn and share knowledge. He suggests that we should view learning as a fundamental part of our humanity and indicate that learning is fundamentally a social phenomenon, reflecting our own deeply social nature as human beings capable of knowing. Wenger's theory focuses on learning through social participation and indicates that a conceptual change towards learning is necessary to enable us learn through social participation. He identified four perspectives towards learning that will enhance our ability to share what we know and learn from others (figure 19).

Figure 19

Learning as social participation



Source : Wenger (2000)

The effect that such a perceptual change can have on the ability of government employees and community members to increase their knowledge base will be subsequently discussed.

Meaning – Learning should be viewed as the accumulation of experiences that provide meaning to our lives. When government employees learn something new during their daily activities, they become empowered and feel as if the experience added additional meaning to their work and their lives. Community members and government employees should be encouraged to expand their horizons and continuously invest in their own knowledge base. Through continuous learning, government staff and community members can create new meaning in their work and personal lives. One of the recommendations of the Situation Analysis was that National Government should assist individuals to start and maintain sustainable projects. Social participation, in the form of workshops and collective training initiatives, could teach community members how to cultivate their own gardens, how to make bricks or teach them carpentry skills. If learning is seen as a way to provide meaning to the lives of community members, the impetus for teaching community members is centred around the enrichment of their lives and not the transfer of skills alone. Not only could such projects provide valuable income for unemployed community members but also provide them with a sense of fulfilment, purpose and accomplishment.

Practise – Practice refers to learning as doing. This corresponds to our initial assumption that the application of information transforms information into knowledge. In addition, practice is an important part of transferring tacit knowledge from one individual or group to another individual or group. Practice forms a central part in the comprehension and integration of new knowledge. Government employees and community members should be encouraged and supported to apply any new information and knowledge. This can be accomplished through workshops or on-the-job training that will provide government employees with an environment that promotes the application of knowledge.

Community – Learning as a community enterprise is a way to fit into the social configuration to which we belong. Participation in learning should be recognised as a

competency within government departments and communities. Learning, as well as the subsequent expansion of ones knowledge base, should be seen as a collective exercise in which everyone should participate. The collaborative effort reinforces the position of government employees and community members in the social structure and makes them feel part of something that is greater and more significant than themselves.

Identity – Learning as a way of becoming, refers to how learning changes who we are. Learning is a way of creating a personal history in the context of the government department or community to which we belong. Learning should be viewed as a way of developing who we are and strengthening our position in the community or department we belong to. Learning is essential in our journey towards self-actualisation within the specific context in which we function.

When learning is viewed as intrinsic to our being and a way of enhancing our own identity, as well as strengthening our pace in the larger community, the mobilisation of information and knowledge and the subsequent generation of new knowledge, can also be seen as fundamentally innate to who we are. From this perspective the mobilisation and generation of new knowledge is not something that government employees and community members should be taught. The ability to create new knowledge is something that already exists inside everyone in the community. The aim of knowledge management therefore, is not to change government employees and community members but to change how they view and interact with information and knowledge.

When we reconsider what learning is and focus on broad participation in learning, it has fundamental implications for our understanding and supporting of learning.

- *For the individual*, learning becomes a way to engage and contribute to the practices in the government department and the larger community.
- *For organisations*, learning ensures that the interconnectedness between individuals, groups and departments are sustained and the knowledge in the government department becomes effective and contributes to the overall value of National Government.

- *For communities*, leaning improves collaboration, refines practices and enhances everyone's understanding of problems experienced in the community.

10.3.2 Mobilising different types of knowledge

Knowledge elaboration, generation and mobilisation should be viewed in relation to the different types of knowledge. Knowledge exists on four levels and should preferably also be managed on four levels, i.e. individual, group, organisational and societal. In addition, the knowledge available in each domain can either be of a tacit or explicit nature. Knowledge can therefore exist in eight formats. An understanding of these different formats will facilitate the effective mobilisation and creation of knowledge. The following table displays the characteristics of each of these types of knowledge.

Table 2

Characteristics of knowledge types

Level of knowledge	Type of knowledge	
	Explicit	**Tacit**
Individual	The ideas thoughts and perceptions of individuals, which can be relatively easily transferred from one individual to another.	The skills, expertise, experience and cognitive abilities of individuals, that is transferred through mentorship programs or internships.
Group	The stories and metaphors used by the group, which is easier to transfer than the underlying group genres.	The group genres or underlying principles that places the group in a specific category and gives it certain characteristics.
Organisational	Best practises and service standards that exist and are used by members of the organisation.	Unwritten rules and regulations that govern the behaviour of members in the organisation.
Societal	The methods and actions of members in a community, enabling them to function within their environment.	The underlying values, principles and ethics as well as a shared understanding, which influences decisions in the community.

Explicit knowledge, weather on an individual, group, organisational or societal level is easier to transfer since it can be explicitly represented, captured, preserved and reused by members. On the other hand, tacit knowledge is more difficult to transfer. Linde (2001) indicate that in the field of knowledge management, tacit knowledge is frequently used to describe non-quantifiable knowledge, particularly the knowledge about social interactions, social practises and most generally, how a group, organisation or society gets things done. This type of knowledge is problematic for knowledge management, because it is difficult to represent as propositions or rules. Linde further argues that tacit knowledge is not unspeakable and is commonly and easily conveyed by narrative.

A narrative is an effective way to transfer group, organisational or societal tacit knowledge by providing a method to convey underlying principles and values. A narrative provides an effective way of conveying tacit knowledge to someone else. In addition, it makes it easier for the knowledge recipient to remember and apply the knowledge

A large number of community members indicated that they are illiterate. This makes the transfer of knowledge in a written format problematic. The use of narratives can overcome this problem since the message can be conveyed orally in the same language as that of the recipient. Hospital staff can convey their knowledge of nutrition, family planning and HIV/AIDS to learners and other community members, by using stories that relate to their culture and environment. By using narratives, knowledge and experiences that would otherwise have been lost can be effectively transferred to other members of the community, expanding their knowledge base.

10.4 KNOWLEDGE APPLICATION

The application of information and knowledge, which is the penultimate process in the knowledge management cycle, is sometimes quite hard to achieve. Government employees and community members might be reluctant to apply new information they have gained. One strategy to motivate government employees and community

members to apply new information is to make them aware of the importance of knowledge application. The subsequent section provides some suggestions that could convince government employees and community members that the application of knowledge has a large number of benefits.

10.4.1 Transforms information into knowledge

Application of information transforms the information into knowledge. When information is applied in a specific context or to a specific problem, it leads to the creation of knowledge.

10.4.2 Embeds knowledge in the recipient

Applying knowledge serves to embody and integrate the knowledge into the knowledge base of the recipient. By applying knowledge it becomes integrated into the system, whether individual, organisational or societal, and through this integration the knowledge becomes part of the daily functioning within the system and has the power to improve the system as a whole.

10.4.3 Enhances learning

Knowledge application supports and enhances the learning that takes place in the community or government department. By applying knowledge to actual problems or difficulties experienced in the community, community members can gain a better understanding of knowledge and how knowledge affects their surroundings.

The application of knowledge also corresponds to the “learning as doing” component of societal learning The application of knowledge, or practise, is a vital component in many forms of learning. Each of us would be very nervous, when a doctor who has only studied books on neurology is scheduled to do brain surgery on us, or when the pilot in control of our aeroplane has only read the manual.

10.4.4 Reduces the clutter caused by information overload

Government staff and community members are continuously being bombarded with masses of new information. Without integrating some of this information into the knowledge base of the individual, the person becomes overloaded with information, which ultimately renders it useless. It is therefore imperative to establish whether new information is applied in the community or specific government departments and how this information is applied. This will lead to an understanding of how employees and community members view information and how it is being applied during their daily activities and other key decisions.

10.4.5 Application creates value

The value of information or knowledge can only be seen when it is applied to specific problems or challenges. Not only should campaigns focus on the dissemination of information, but guide and encourage community members and government staff in the application of the information they receive. Only when information is applied to current conditions in a specific context, does the information become knowledge and have a positive effect on the system.

For example, the information on the daily consumption of pharmaceuticals in clinics are available, however, the information is not applied. The information can therefore not be changed into knowledge that could ultimately improve the system. One participant told the research team that most vendors who sell food on the street do not prepare and store food in a hygienic manner. Information dissemination campaigns informing vendors how to treat and store various types of food have been unsuccessful, as no one is applying this information. Consequently, numerous community members become ill as a result of contaminated food.

Another example is the abuse and neglect of young children. Hospital and clinic staff told the research team that they provide a lot of information to community members on child neglect and abuse, but that community members do not apply this

information. They continue to leave their children unsupervised while fires or paraffin burners are burning, resulting in many young children being severely burned.

10.4.6 In conclusion

The application of knowledge is therefore an essential step in the knowledge management process in order to transform information into knowledge, embed this knowledge in the recipient, and reduce the clutter cause by information overload.

In addition, the application of information and knowledge provides a foundation from which current knowledge can be evaluated and improved. The feedback received from the environment enables one to evaluate the knowledge and make the desired changes.

10.5 KNOWLEDGE EVALUATION

10.5.1 Introduction

As important as the application of knowledge, so to is the evaluation of newly generated or elaborated knowledge. Knowledge management should be implemented with a specific goal in mind and the attainment of that goal should be evaluated on a continuous basis (Binney, 2001). The new knowledge state should be evaluated to ascertain if the knowledge gap has been filled and in addition to inform the next knowledge management objective. It is therefore imperative that specific targets and criteria be set on which the new knowledge can be measured and evaluated.

The evaluation of the new knowledge state will enhance government employees and community members' understanding of the knowledge and its effect. This will allow the government employees to customise their strategy and bring it more in line with the established knowledge management objectives. Not only is it important to evaluate the outcomes of knowledge management, but the processes and enablers that

make knowledge management possible, should also be evaluated. However, evaluating the processes, enablers and knowledge outcomes is rather difficult.

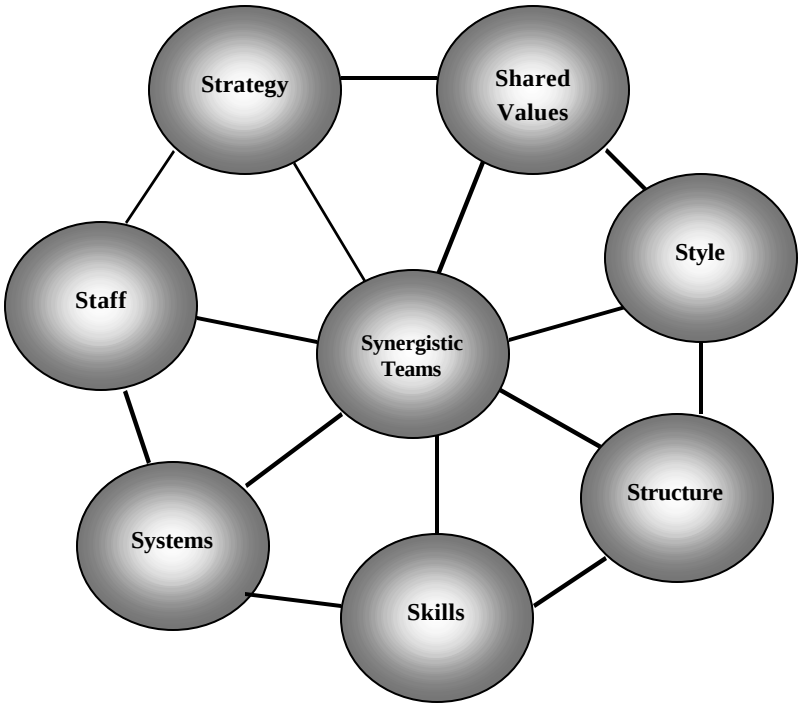
An effective way to evaluate the processes and enablers in an organisation, government department or community, is to compare it to what is known as a "learning organisation." A learning organisation or community is an organisation or community in which knowledge is managed effectively and thus creates organisational and societal learning, which leads to continuous renewal of knowledge in the system. Therefore, an effective way to evaluated the management of knowledge within the community or government department is to compare it to a learning organisation.

10.5.2 Characteristics of a learning organisation

McKinsey (in Hitt, 1995) developed what he called the 7-S Framework that depicts the characteristics of a learning organisation. This framework provides a systems view of all aspects in a learning organisation, which in our case, is represented by various government departments as well as the community. The value of this framework is that it is both comprehensive and also very practical. The elements in a learning organisation are represented by 7-Ss i.e., Shared values, style, structure, skills, systems, staff and strategy. Hitt (1995) however found that the framework lacks one crucial aspect and added an eight "S", called synergistic teams. This type of framework, as displayed in figure 20, provides a structured and practical way of evaluating knowledge management in an organisation or community. Each of these elements will be subsequently discussed.

Figure 20

7-S Framework



Source: Hitt (1995)

10.5.1.1 Synergistic teams

Synergistic teams are at the centre of the learning organisation and therefore also at the centre of any department or community who wants to effectively manage knowledge. Synergy refers to the concept of a whole that is greater than the sum of the individual parts. Synergistic teams should become the foundation of knowledge sharing within government departments and rural communities that wants to effectively manage knowledge. The way in which various groups, CoP, teams and departments work together, provide and indication of the synergy that exists in a community and National Government.

10.5.1.2 Shared Values

Every organisation, including government departments and communities has certain values or points of view that governs the life of its members. One sign of a healthy government department or community is when these values correspond with the daily activities within the department or community. If the underlying value of a department is the effective delivery of quality services, the existence of effective and quality service delivery, becomes the gauge to establish whether the department is operating in terms of the shared values held by the department. Especially in the case of knowledge management, the underlying knowledge culture, represented by the shared values in the government department or community, should be evaluated. These values should correspond with the knowledge management objectives within the department or community.

10.5.1.3 Style

Style refers to the leadership style within the specific government department and community. When we talk about leadership style we are actually referring to the way in which the leader(s) are managing the organisation. As described earlier, leadership is a vital enabler that supports and facilitates the effective management of knowledge. If leaders in the community, and managers in government departments, are not committed to the process of knowledge management, effective knowledge management would be difficult to attain. National Government should provide employees with the necessary resources and support to effectively manage knowledge. It is imperative to evaluate the leadership styles in government departments and the community, in order to establish if these are conducive to the management of knowledge.

10.5.1.4 Strategy

Strategy and planning is closely related to the leadership and management in the government department and community. Strategy refers to the overall strategy of the

Government, as well as the knowledge management strategy in National Government. If knowledge management wants to be incorporated into government departments, having a sound strategy to do this is imperative; otherwise the National Government will end up “fighting the proverbial alligators while they are trying to drain the swamp”.

10.5.1.5 Structure

The structure of a learning organisation should encompass two dimensions. On the one hand it should be a stable environment that promotes order (bureaucratic structure). This stable structure can be seen as the spinal column of the organisation that provides strength and stability. The second critical function is flexibility. The organisation should be flexible enough to encourage innovation and learning. By creating dynamic networks that can operate horizontally within the vertical structure of stability, you provide government employees with a secure but flexible environment in which information and knowledge can be spontaneously shared. It is imperative to investigate these two dimensions in government departments as well as other organisations active in the rural community that wants to manage knowledge, since improper structures can limit innovation and the dissemination of information and knowledge.

10.5.1.6 Staff

The staff in government departments, as well as community members, form a central part of the knowledge management strategy, since knowledge exists inside human beings. Knowledge management is about sharing knowledge and experiences, learning from each other and subsequently elevate the individual as well as the organisation. It is therefore of primary importance that employees and community members should be encouraged to share what they know, in order to learn from each other. Employees within government departments should in addition be continuously evaluated on new knowledge that they have gained.

10.5.1.7 Skills

Skills refer to the skills and ability to learn and two types of learning are explored. The first is adaptive learning while the second is generative learning. Argyris (1991) refer to these two types of learning as singe-loop and double-loop learning. For instance, a researcher receiving questionnaires from fieldworkers sees that many of the questionnaires are completed incorrectly. The researcher operating at the single-loop level will focus on cleaning the data thoroughly, as to not include deficient data in the data analysis. A researcher operating on the double-loop level will ask, "What should we do to redesign the questionnaires to avoid the incorrect completion of the questionnaire?" There is a clear qualitative difference between these two categories of learning. For government departments the second type of leaning hold much more promise than the first type of learning. Investigating and evaluating how government employees approach problems and difficulties, can provide valuable information about their skills to learn.

10.5.1.8 System

System in this framework refers to the measurement framework that is utilised in the government department. In this regard the saying "what you measure is what you get" is applicable. If National Government focuses on the improvement of services, the improvement of services is what they are likely to achieve. Knowledge evaluation in government departments should form part of the overall measurement system employed in National Government. If Government does not measure the creation, capturing and dissemination of knowledge, they are unlikely to achieve the goal of knowledge management.

10.5.1.10 In conclusion

The above-mentioned framework provides a comprehensive systems approach to evaluate knowledge management in government departments and the rural community. It provides a practical way to evaluate both knowledge management

processes as well as some knowledge management enablers. The evaluation of knowledge management is the final process and provides valuable information in terms of:

- the effectiveness of knowledge management
- where knowledge gaps still exist
- how knowledge management should be altered
- the value of knowledge

Evaluation assists in the identification of knowledge management initiatives that are unsuccessful or ineffective. By continuously evaluating all aspects related to information and knowledge management, one can identify the value of information and knowledge in the community. Without evaluation, there are no proof that knowledge related initiatives are successful. The Situation Analysis found that condoms are supplied to community members via clinics, hospitals and HBC volunteers. Unfortunately, information dissemination campaigns are ineffective in convincing males in the community to wear condoms. Community members indicated that a large number of males in the community believe that if their wives or partners ask them to wear a condom, it either means *she* is having multiple sexual partners, or alternatively she is accusing *him* of having other sexual relationships. A thorough evaluation of condom use in the community will inform Government that current information dissemination campaigns are ineffective in changing the behaviour of males in the community. Without evaluating the effect information and knowledge has on the community, it is impossible to establish the value of information and knowledge available in the system.

Evaluation is also necessary to update existing procedures and processes. In many instances a specific process or activity could be implemented and continued even after its usefulness have expired. Without regular evaluation and adaptation, these activities could be continued, although they are outdated and of no use. One of the focus group participants indicated that many campaigns are predominantly conducted in English. However, not providing information to people in their mother tongue is an outdated strategy that should be changed to accommodate those community members that do not understand English. Although this is a simple example, it does however indicate

that certain processes or procedures might be followed aimlessly unless the rationale and value of these procedures are evaluated on a regular basis.

CHAPTER 11

FINDINGS, LIMITATIONS AND RECOMMENDATIONS

11.1 INTRODUCTION

The aim of the current chapter is to provide a summary of the findings, emphasise the limitations of the study and provide recommendations for further research.

11.2 FINDINGS

A history of apartheid has marginalized rural communities in South Africa and the disregard for these communities has led to a deterioration of health- and social services. An estimated 20.28 million South Africans are affected by deterioration in services. People living in rural areas have fever resources and are exposed to unique physical, psychological, environmental and social challenges.

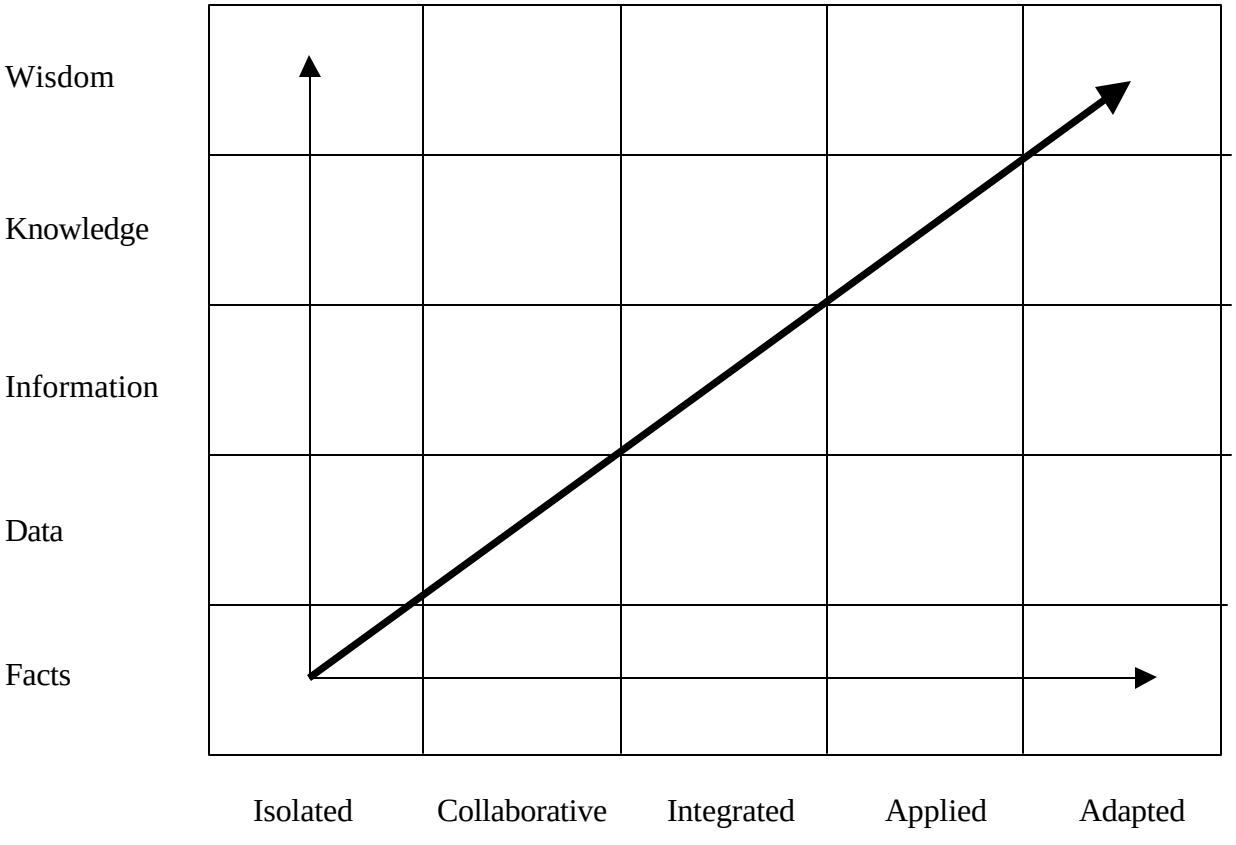
Findings from the situation analysis indicated that a large number of services to communities in rural areas are substandard and insufficient. The situation analysis also illuminated the fact that a large number of inadequacies are related to the non-management or ineffective management of information and knowledge. Knowledge management is characteristic of the corporate environment, but the need to apply knowledge management in a social context is becoming apparent. Rural communities, like other types of social systems, generates and accumulates knowledge on a continuous basis. As in the business environment, knowledge is a resource, and the effective use of knowledge to improve conditions, work processes, services and products requires the effective management thereof. Therefore, the management of knowledge to improve the operation and functioning of a rural community seems necessary to solve knowledge-related problems that affect the functioning of the community.

The current dissertation indicated that the predominant processes associated with the management of knowledge are generic, which enables the effective implementation of these processes in a social setting. The creation of knowledge is a process that transforms social facts into knowledge and ultimately wisdom. Figure 21 illustrates this process in relation to the effect that knowledge management should have on government departments and the rural community as a whole. As indicated by the diagonal arrow, the rationale for knowledge management is to move away from the isolated use of facts to the application and adaptation of knowledge and wisdom.

Knowledge transformation, as well as the outcome of knowledge management, can be situated in any of the squares in the model. On the vertical axis, the aim is to transform social facts, data and information into valuable and useful knowledge and wisdom. Horizontally, the aim (or effect of successful knowledge management), is to break away from the isolated use of facts, data, information, knowledge and wisdom to the collaborative and integrated use of these knowledge modes, that would ultimately lead to the application and adaptation of these knowledge modes.

Figure 21

Process and effect of knowledge management



Examples from the situation analysis indicated how the non-management or ineffective management of knowledge influences the lives of individuals in rural communities. Further elaboration showed how knowledge management could be used to improve the range as well as the quality of services provided to community members. Although it is possible to implement certain knowledge management processes without considering the external environment and its effects on the implementation of these processes, the dissertation argued that the effective and sustainable implementation of the processes is determined by the existence of various knowledge enablers. Therefore, the suggestion is that the various knowledge enablers should be instituted in government departments and the general community before the actual processes of knowledge management could be implemented.

11.3 LIMITATIONS AND RECOMMENDATIONS

A fundamental limitation of the current research is the fact that the situation analysis was conducted to investigate the services rendered to community members and not to investigate knowledge and skills shortages in the community or government departments active in the community. Skills and knowledge levels were deduced from this information, therefore, it is suggested that additional research should be conducted that focuses specifically on the identification of skills and knowledge shortages that might affect the delivery of services in rural communities. A skills and knowledge audit of this nature would confirm and also identify additional shortages and would depict the relevant knowledge and skills gaps more comprehensively than the situation analysis. The fact that the situation analysis did identify certain knowledge shortages is an indication that knowledge deficiencies do exist and negatively affects the range and quality of services provided to community members.

A further limitation of the research is the theoretical nature of the study without tangible implementation and application. Other factors, not considered during the research, might emerge during the physical implementation of the research. Knowledge enablers might be nonexistent or embedded in the community or

government department to such a degree that it would require a complete reform of the entire organisation or community. Therefore, the existing state of knowledge management enablers and processes should be examined in order to develop a sound and comprehensive foundation for the development of an appropriate and unique knowledge management initiative.

A further recommendation is that knowledge management should be viewed as a fundamental part of community development and community psychology. As the number of social research projects increases and the amount of information and knowledge increases, the need to manage knowledge becomes more and more apparent. In order to find sustainable solutions for the challenges encountered in rural communities, the effective management of relevant information and knowledge becomes all too apparent.

Not only should knowledge be managed to find sustainable solutions, but also to provide a sound base for changes in government policies. In most instances, partly due to the long period it takes to implement new policies, there are always differences between current policy and the available knowledge at that time. The gap between available knowledge and current policy should be reduced in order to improve the conditions of people in rural communities. In addition, when people on grassroots level generate knowledge, the knowledge becomes the voice of community members and subsequently provides them with the means to influence policies that have a direct impact on their lives.

Finally, it is suggested that academics and tertiary institutions should become actively involved in rural community development, since tertiary institutions are the principal entities where knowledge is sought, generated, refined and disseminated. Individuals and organisations that form part of the local community are entrenched in their current situation and find it difficult to change what they do and how they do it. By themselves it is sometimes difficult to change ingrained process or modes of functioning. Community members require the assistance and expertise of people from outside the community and tertiary educational institutions and academics can provide this outside perspective.

11.4 IN CONCLUSION

As soon as government employees and community members view the generation and dissemination of knowledge as a problem- solving approach, the ultimate objective of managing knowledge becomes the improvement of conditions and the upliftment of the community and its members. Psychologists active in the fields of community psychology and community development should consider the value of knowledge and its dissemination when conducting research or implementing interventions in communities. By focusing on knowledge, its creation and dissemination, we can enter a new era of development and upliftment that is based on indigenous knowledge of people in rural communities.

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