CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1   INTRODUCTION

In Section 1.2, certain questions were formulated in order to address the central research problem. The aim of this chapter (Chapter 6) is to address these questions from the findings in the empirical study, corroborated by the literature study, and to draw conclusions from these. This is followed by a number of recommendations flowing from the study, as well as a list of possible themes for further research. The research questions (see Section 1.2) were:

- What is meant with the concepts knowledge management, learning organisation and Communities of Practice?
- What interrelationship exists between the knowledge management, learning organisation and Communities of Practice concepts?
- What role does Communities of Practice play in the management of knowledge in a learning organisation?
- What are the development stages in the implementation of Communities of Practice to support knowledge management?
- What are the critical factors for the success of Communities of Practice in the management of knowledge in a learning organisation?

6.2   WHAT IS MEANT WITH THE CONCEPTS KNOWLEDGE MANAGEMENT, LEARNING ORGANISATION AND COMMUNITIES OF PRACTICE?

6.2.1 THE CONCEPT OF KNOWLEDGE MANAGEMENT

Two perspectives regarding knowledge management were identified during the literature study, namely the integrative perspective where knowledge management is seen as the management of tacit and explicit knowledge in an integrative manner (an example of this is the interaction between tacit and explicit knowledge in the SECI model in Section 2.6.1), while the information technology perspective views knowledge management as

the management of content and information management as the management of information technology (see Section 2.7.1). The empirical study showed that knowledge management in the AIS was viewed from an integrative perspective, because most of the respondents viewed knowledge management as the management of tacit and explicit knowledge in an integrative manner. The four types of knowledge identified in the literature study (see Section 2.2.4), namely tacit, explicit, organisational and cultural knowledge, were also shared in the Communities of Practice in the AIS (see Section 5.6.12). In correlation with the literature study (see Sections 2.6.2.5, 4.5.2 and 4.6), information technology was furthermore regarded as an enabler of knowledge management in Communities of Practice in the AIS (see Section 5.6.1). Various stages of knowledge management were identified in literature (see Section 2.7.3), namely the 'Information for decision support stage', the 'SECI model stage' and the 'Complicated-complex and chaotic stage'.

Considering the above stages, knowledge management can be regarded as in the 'Information for decision support stage' and moving into the 'SECI model' stage. This can be substantiated by the AIS's knowledge management processes having mostly focused on the management of explicit knowledge, but not so much on the management of tacit knowledge (see Section 5.6.2). The fact that discussions on the topic were held in the AIS, that a knowledge management project was run, and that an information technology infrastructure for knowledge management was set up, was an indication that the organisation realized the importance of the management of both explicit and tacit knowledge and was moving into the 'SECI model stage'.

6.2.2 THE CONCEPT OF THE LEARNING ORGANISATION

During the discussion of the concept of the learning organisation in the literature study, three types of learning that occurs in organisations were identified, namely *single-loop learning*, *double-loop learning* and *deutero-learning*. Single loop learning, according to the literature (see Section 3.2.2.1), takes place when members of an organisation become aware of changes in the internal and external environment through engagement with each other, then detect errors in the services and products of the organisation they belong to, and correct these. When the errors detected lead to the modification of the organisation's underlying norms, policies, strategies, objectives and assumptions associated with the norms, double-loop learning (see Section 3.2.2.2) takes place.

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Deutero-learning (see Section 3.3.2.3) occurs when members of an organisation learn from each other "how to learn". The empirical study (see Section 5.6.3) showed that two types of learning, namely single-loop and double-loop learning, occured in the Communities of Practice in the AIS. Deutero-learning should occur as a matter of course, as members of these Communities learn from one another by interacting. In correlation with the literature study (see Section 3.3.2), the empirical study (see Section 5.6.3) showed that the AIS developed into a learning organisation to address the rapid changes taking place in the environment in which it operated. The AIS was further shown to have the following attributes of a learning organisation as mentioned in the literature study (see Sections 3.3.4.2, 3.3.4.3, and 3.5): providing continuous learning opportunities (environments); user education on how to search for information; the use of measurement systems to measure performance; the linking of individual performance with organisational performance; and the organisational structure of the AIS being in the form of a net (matrix) (see Section 5.4).

6.2.3 THE CONCEPT OF COMMUNITIES OF PRACTICE

Communities of Practice in the AIS were found to exist internally and externally (across the organisation's boundaries), which correlated with the literature study's finding that Communities of Practice in an organisation can exist internally between colleagues in an organisation (see Section 4.2), focusing on the internal work processes and practices of the organisation, and operating normally in organisational units in the same organisation. Communities of Practice in the AIS were also found to exist externally (see Section 4.2) across organisational boundaries or boundaries of different organisational units, including professionals sharing the same domain, but working in different organisations or organisational units. The small number of internal Communities of Practice in the AIS was linked to the absence of top management after two of the top management staff members went on retirement, as well as the fact that knowledge management was only in its beginning stages in the AIS.

During the empirical study, it was further found that Communities of Practice could be in virtual and face-to-face format, which correlates with the literature study. Both the literature study (see Section 4.2) and the empirical study (see Section 5.6.9) indicated that Communities of Practice in the face-to-face format provided people with a sense of being part of a community, while Communities that only met virtually could be

experiencing problems in creating a sense of being part of a community. The empirical study also confirmed the finding in the literature study that Communities of Interest have the potential to develop into Communities of Practice (see Section 4.3.3). Formal groups/teams were also shown in the empirical study to have the potential to develop into Communities of Practice (see Section 5.6.5). Communities of Practice were furthermore found to be places where newcomers can learn from old timers by being allowed to partake in certain tasks relating to the practice of the Community (see Section 4.3.2). After a certain time, the newcomers then move from peripheral participation to full participation in the Community. The empirical study confirmed the importance of helping newcomers in Communities of Practice move from peripheral to full participation, and also pointed out the lack of processes in the AIS to assist newcomers in these Communities.

6.3   WHAT INTERRELATIONSHIP EXISTS BETWEEN THE KNOWLEDGE MANAGEMENT, LEARNING ORGANISATION AND COMMUNITIES OF PRACTICE CONCEPTS?

The findings from the literature and empirical study showed that a definite relationship exists between knowledge management, learning organisations and Communities of Practice. The idea that Communities of Practice in the AIS developed to ensure and accelerate the sharing/flow of knowledge/expertise (see Section 5.6.5), correlates with some of the characteristics of a learning organisation mentioned in the literature study, namely the acquisition, creation, usage, storage and transfer of knowledge, and the rapid leveraging of new knowledge (see 3.3.4.4). This showed the relationship that existed between knowledge management, Communities of Practice and the AIS as learning organisation (see Section 5.6.11).

The idea of Communities of Practice in the AIS acting as *learning spaces* where staff members can get informal training and can learn, concurs with one of the characteristics of a Community of Practice as mentioned in the literature study, namely that Communities of Practice provide a space where people can share their know-how and experience with their peers (see Section 4.3.2), again demonstrating the interrelationship between the concepts. The literature study (see Section 4.9.2) showed that Communities of Practice provided the necessary platforms whereby tacit, explicit, cultural and organisational knowledge could be shared/managed, which was confirmed

by the empirical study in Section 5.6.12. The statements from the empirical study that Communities of Practice helped with the integration of internal knowledge in the AIS (see Section 5.6.11), and that they helped others to gain the experience and knowledge that experts have, confirmed the findings from the literature study that they aid in the retention of knowledge when employees leave the organisation, and that they increase access to expertise across the organisation (see Section 4.4), showing again the interrelationship between the concepts.

From these findings, one can therefore conclude that if Communities of Practice can be found in learning organisations, and learning organisations are characterised by knowledge management, then knowledge managed through Communities of Practice can help in the development of learning organisations.

6.4   WHAT ROLE DOES COMMUNITIES OF PRACTICE PLAY IN THE MANAGEMENT OF KNOWLEDGE IN A LEARNING ORGANISATION?

It was found in the literature study that by participating in Communities of Practice, individuals could experience a sense of community, enrich their learning, and can share and obtain the necessary knowledge (expertise, experience and tools) to do their work effectively (see Section 4.4). The empirical study confirmed this by stating that Communities of Practice helped their members do their work better, to put a better product on the table, to share/transfer knowledge, to accelerate knowledge sharing/transfer, and to create a stable sense of being part of a network or community (see Section 5.6.11). Communities of Practice can also be used to embed knowledge and expertise in a larger population, as confirmed by both the literature (see Section 4.4) and empirical studies (see Section 5.6.11). The empirical study (see Section 5.6.11), described this in different words, namely to "integrate internal knowledge in the organisation" and to accelerate knowledge sharing/transfer.

The use of Communities of Practice to retain or embed knowledge and experience of employees (experts) when they leave the organisation also builds on the idea of embedding/integrating internal knowledge and was mentioned in both the empirical (see Section 5.6.11) and literature studies (see Section 4.4). The sharing of knowledge outside the traditional structured boundaries of the organisation (see Section 4.4) linked up with the idea put forward in the empirical (see Section 5.6.11) and literature studies

(see Section 4.4) of utilising Communities of Practice to cross-fertilize ideas. Communities of Practice furthermore helped to ensure standardisation, i.e. building of a common language between people in the organisation (see Section 4.4). This was confirmed by the empirical study (see Section 5.6.11). Communities of Practice also increased opportunities for innovation and increased access to expertise, as could be deducted from both the literature study (see Section 4.4) and the empirical study (see Section 5.6.11).

6.5   WHAT ARE THE DEVELOPMENT STAGES IN THE IMPLEMENTATION OF COMMUNITIES OF PRACTICE TO SUPPORT KNOWLEDGE MANAGEMENT?

The literature study (see Section 4.5.2) showed that Communities of Practice develop through certain stages forming a life cycle. The first stage was shown to be the potential stage, where the possibility for the formation of a community from a network of people with similar issues and needs exists. A formation stage where people come together and launch a Community of Practice follows next. This is in turn followed by a commitment stage where the Community grows and takes full ownership of its practice. An active stage where the Community is established and goes through cycles of activities develops next, and in the final stage the Community can disengage or adapt to changes in the environment. In each of the stages, the behaviour of its members, the role of the information professional, the behaviour of the organisation where applicable, the supporting processes, as well as the enabling technology were shown to differ.

The empirical study (see Section 5.6.10) revealed that most of the Communities of Practice in the AIS found themselves either in the potential stage, because the members still needed to find one another, find common ground and prepare for a community, or in the formation stage, because their members came together, formed a community, set out its operating principles, were learning about each other, started to share experiences and knowledge, started to build a common vocabulary, were creating roles and norms, formed a group identity, and were starting a formal history. The reason these groups didn't develop further than these two stages could be because knowledge management in the AIS was only in its beginning stages (see Section 5.6.2) at the time of the study. Another reason could be the absence of and lack of support from the top management of the AIS (see Section 5.6.17). Flowing from this was a lack of incentives or rewards for staff members to participate in Communities of Practice (see Section 5.6.16) as

hindering development. The lack of knowledge on knowledge capturing techniques (see Section 5.6.13) as well as the fact that the virtual workspace of the InfoPortal was not open to people outside the University of Pretoria, could also have been hindering factors.

6.6   WHAT ARE THE CRITICAL FACTORS FOR THE SUCCESS OF COMMUNITIES OF PRACTICE IN THE MANAGEMENT OF KNOWLEDGE IN A LEARNING ORGANISATION?

Most of the critical factors mentioned in the literature study were also named in the empirical study. Passion as a critical factor that keeps the Community together was added in the empirical study (see Section 5.6.20), but not mentioned in the literature study, though it does link up with the idea of developing an active passionate core group as mentioned in Section 4.7. The finding in the literature study that Communities of Practice normally consisted of a handful of people was confirmed by the empirical study, when the ideal size for a Community were shown to be 10-20 people (see Section 5.6.6).

Storytelling and role-play/simulations as knowledge capturing and sharing techniques are critical for the success of Communities of Practice and were mentioned in both the literature and empirical studies.

Both the literature study (see Section 4.8.2.1) and the empirical study (see Section 5.6.18) showed that trust between members of a Community of Practice is essential to ensure the successful transfer/capture of knowledge in a Community of Practice. People tend to share knowledge only with those they can trust.

The information technology/tools used in a Community of Practice can either contribute to the success or failure of a Community of Practice. It is thus essential that the right information technologies/tools be used. The literature study (see Sections 4.5.2 and 4.6) listed the following tools/technologies that were used in the Communities of Practice in the AIS at the time of the study (see Section 5.6.13): e-mail, listservs, telephone calls, teleconferencing, webpages, virtual workspaces, and portals. In correlation with the literature study (see Section 4.5.1), the empirical study (see Section 5.6.14) found that participation in Communities of Practice can be inspired through

identification/recognition of individual achievement by inviting suitable experts to join, building of group identity by designing a virtual workspace for the Community, and motivating and rewarding participation by including participation in the members' performance evaluations. Contracting people to take part was added in the empirical study (see Section 5.6.14) as another possible technique that can be utilized.

The empirical study (see Section 5.6.7) showed that information professionals can easily fulfill the coordination or facilitation role in Communities of Practice and thereby confirmed what was found in literature (see Section 4.9.4). Information professionals, because of their training and experience, can act as Community Champion, facilitate group dialogue, set-up, facilitate and document informal meetings, map knowledge flows and knowledge relationships, encourage members to stay committed, act as mentors or teachers, and help negotiate the role of the Community in organisational decision-making.

The importance of management's role in ensuring the success of Communities of Practice came out clearly in both the empirical (see Sections 5.6.16 and 5.6.17) and literature studies (see Section 4.7), by stating that they can reward and encourage participation in Communities of Practice, and can see to it that participation is included in their personnel's performance evaluations. The importance of management's role was also demonstrated by the negative impact the retirement of two of the top management members of the AIS, together with the uncertainty it left, had on the development of the Communities of Practice in the AIS.

Flowing from these findings and conclusions, certain recommendations can be made.

6.7   RECOMMENDATIONS

Knowledge management and Communities of Practice are essential if the AIS wants to fulfil its role as one of the top academic libraries in Africa and if it wants to compete internationally with other information providers. Therefore, the researcher recommends that a framework for knowledge management be worked out in the AIS, and that deutero learning be given more attention in the Communities of Practice in the AIS, which will provide opportunities for reflection on what facilitate or inhibit learning so that new strategies for learning can be invented. Procedures should be put in place in

Communities of Practice to help newcomers move from peripheral participation to full participation, e.g. by identifying people in these Communities that can act as mentors for the newcomers. Furthermore, the uncertainty concerning the replacement of the top management in the AIS that went on retirement should be addressed as a matter of urgency. Participation in Communities of Practice by library staff (information professionals) should be included in their performance evaluations and staff members should be awarded incentives for participating. Cataloguers in the AIS should also be given the chance to get involved in the knowledge management processes of the AIS. The limitations of the virtual workspace on the InfoPortal of the University should also be addressed and the workspace opened up to people from outside the University.

6.8   SUGGESTIONS FOR FURTHER RESEARCH

During this study, certain areas were identified that can provide opportunities for further research:

- The effectiveness of Communities of Practice in other academic libraries where they have top management support;
- Communities of Practice in other types of libraries;
- Communities of Practice in other types of learning organisations;
- The most effective technique to capture knowledge in Communities of Practice;
- The investigation of the facilitation and leadership roles in Communities of Practice;
- The role of the information specialist in Communities of Practice;
- The role of disciplines in transforming an academic library into a learning organisation;
- The most effective information technology/tool to support Communities of Practice.

6.9   CONCLUDING REMARKS

This study has shown that Communities of Practice normally occurs in learning organisations. Communities of Practice can also help an organisation to transform into a learning organisation. Learning organisations were furthermore shown to be characterised by knowledge management, and Communities of Practice were shown to

be the ideal instruments to facilitate the management of knowledge and learning in a learning organisation. Academic libraries, just like any other organisation, were shown to be facing a continuous changing environment with changing customer expectations, continuous developments in technology, etc., which compels them to become learning organisations.

The AIS of the University of Pretoria as academic library and learning organisation have used Communities of Practice the past few years to help in the management of its knowledge. The study showed that the success of these Communities of Practice was very much dependent on the support of top management, the information technology infrastructure, enthusiasm of their members, trust between members, time and rewards and incentives to participate. The Communities of Practice in the AIS started with a lot of enthusiasm a few years ago and started off well, but never developed further than the first stages of the life cycle a Community of Practice. Reasons for this were shown to be the retirement of two of the top management members of the AIS, coupled with the uncertainty about who will take their place, perceived lack of support for the concept by staff from the remaining top management, problems with the virtual workspace of the InfoPortal of the University of Pretoria to accommodate people from outside the university, the lack of attention to newcomers in the Communities of Practice, and lack of time, rewards and incentives to participate in Communities of Practice. These Communities of Practice were shown to have a definite and valuable role in the management of knowledge (tacit and explicit) in the AIS as learning organisation, and they will develop further if attention is given to the abovementioned problems.

Communities of Practice, though valuable knowledge management instruments, seem to be very vulnerable human institutions and as such should be well nurtured by organisations, because they might mean the difference between an organisation being successful or not.