Critical success factors for

communities of practice at

Multichoice

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Abstract

Despite increased academic focus on knowledge management, the creation and management of knowledge within organisations has received limited attention. Whilst a considerable body of international literature exists on the role of communities of practice in managing knowledge in organisations, the South African literature is largely silent on communities of practice as a means of managing knowledge and thus represents a gap for further research.

The objective of the research is to assess which critical success factors identified in the academic literature are rated as being most relevant to members of communities of practice in a single organisational context, being Multichoice. Further, the research assesses whether critical success factors vary by type and life cycle phase of communities of practice at Multichoice. A deductive, quantitative approach within the positivist paradigm is employed. Specifically, the descriptive survey questionnaire approach is adopted.

The research reveals a strong resemblance between the critical success factors identified in the literature and those rated by members of communities of practice at Multichoice. In addition, the research demonstrates that critical success factors vary – albeit marginally - with both the type, and stage in the life cycle, of communities of practice at Multichoice. All the factors identified, with the exception of two factors, are rated as `critical' to the success of communities of practice at Multichoice.

Declaration

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

Stuart Murphy   Date

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1. Chapter One: Introduction to Research Problem

1.1 Context of research problem

The objective of chapter one is to provide a context for this research project, which will lead to an outline of the need for the research. This is undertaken by examining the importance of knowledge in the knowledge economy, which requires of organizations to grapple with the need to more effectively manage knowledge to remain competitive. A means of managing knowledge in organizations is through the use of communities of practice. The critical success factors to implementing communities of practice for enhanced knowledge management represents the focus of this research project.

1.1.1 Knowledge and Knowledge Management

In the post-industrial or knowledge economy, knowledge is viewed as a critical resource along with the other factors of production, being land, labour and capital. The importance of knowledge as a source of sustainable competitive advantage has been recognised by several scholars (Drucker, 1993; Leonard-Barton, 1992; Nelson, 1991; Prahalad & Hamel, 1990; Quinn, 1992; Sveiby, 1997; and Toffler, 1990).

Nonaka, Konno & Toyama (2001) argue that there are two types of knowledge: explicit knowledge and tacit knowledge. Explicit knowledge can be expressed in words and

numbers, and shared in the form of data, specifications, manuals and so forth. Tacit knowledge is highly personal and difficult to formalise, making it difficult to communicate or share with others, and includes subjective insights, intuition, and hunches. Explicit and tacit knowledge are complementary and interactive, and crucial to knowledge creation (Nonaka *et al*, 2001).

Tobin (2007) notes that there is no single, commonly agreed, definition of knowledge management. One such definition is that KM is the creation and subsequent management of an environment which encourages knowledge to be created, shared, learnt, enhanced, organised and utilised for the benefit of the organisation and its customers (British Standards Institute, 2003, p. 19 in Tobin, 2007).

1.1.2 Communities of Practice

Nonaka *et al* (2001) argue that knowledge is created not just by individuals but through interactions among individuals and with the environment. For knowledge to be created organisationally, individual knowledge needs to be shared, recreated and amplified through interactions with others.

Similarly, Wenger, McDermott & Snyder (2002) argue that sharing tacit knowledge requires interaction and informal learning, and that communities of practice (CoP) are a means of sharing both tacit and explicit knowledge. Wenger *et al* (2002) define CoP as groups of people who share a concern, a set of problems, or a passion about a topic, and

who deepen their knowledge and expertise in this area by interacting on an ongoing basis. It is argued that organisations need to become more intentional and systematic about managing knowledge, and that consciously cultivating CoP is a means of doing so (Wenger *et al*, 2002).

Wenger *et al* (2002) further argue that CoP deliver value to organisations. This may include the ability to execute a strategic plan, increased retention of human capital, development of capacity for knowledge projects, promotion of innovation and creativity, skills development, and reduced costs through faster access to information.

McDermott (2000) argues that there are four types of CoP: those that are linked to a strategic objective; those that focus on tactical processes, process optimisation and sharing of best practice; project-based communities formed for the duration of a specific project; and knowledge nurture communities which focus on growing a particular body of knowledge.

Wenger *et al* (2002) argue that CoP evolve through different life cycle stages: launched, where the need for the community has been identified and a launch occurs with members, roles, domain, and goals defined; developing, in which membership is growing and activity levels are increasing; mature, when there are regular contributions and the goals of the CoP are being achieved; and dissolved, when the CoP has achieved its goals, its activity has ceased and explicit knowledge has been captured and archived for future use.

1.1.3 Critical Success Factors for Communities of Practice

Rockart (1979) argues that critical success factors (CSFs) are the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. CSFs are the few areas where `things must go right' for the business to flourish. Accordingly, CSFs are the areas of activity that should receive constant and careful attention from management. CSFs represent the areas in which good performance is necessary to ensure attainment of the goals of the organisation (Rockart, 1979).

The literature has identified several CSFs pertaining to CoP in organisations, which are reviewed in the next chapter. The aim of this research is not to identify additional CSFs related to CoP, but rather to analyse which CSFs mentioned in the literature are relevant to the CoPs in one organisational context.

1.2 Need for Research

Effectively designing and implementing a sound knowledge management (KM) strategy and becoming a knowledge-based company are viewed as a mandatory condition for organisational success in the context of the knowledge economy (Binney, 2001). However, Nonaka et al (2001) argue that despite the increased scholarly focus on KM, the creation and management of knowledge within organisations has received limited attention.

Echoing the above argument, a recent survey on west European firms by The Economist Intelligence Unit (2005), found that a majority a firms recognise the importance of KM technology solutions to achieving their goals. However, many firms have a poor record in capturing and exploiting information and knowledge, with overly complex technology together with internal barriers between business departments preventing firms from turning raw information into actionable knowledge.

A body of international literature exists on the role of CoP in managing knowledge in organisations, which is reviewed in the following chapter. However, the South African literature is largely silent on CoP as a means of managing knowledge, with the notable exceptions of Sandrock (2006) and van den Berg & Snyman (2003).

The research problem of this research project concerns the critical success factors to implementing CoP in an organisational context against the backdrop of the poor record in capturing and exploiting information and knowledge, as highlighted by The Economist Intelligence Unit (2005). The local literature touches on elements which are involved in the implementation of KM in general. However, research focusing specifically on CoP appears to represent an area for further research in the South African context.

Local literature on KM has focused on the development of KM frameworks for the development of effective KM strategies (Mostert & Snyman, 2007); guidelines to enable organisations to test and assess their level of KM maturity (Kruger & Snyman, 2007); the creation of an ethical atmosphere conducive to knowledge sharing in corporate

environments (du Plessis, Britz & Davel, 2006); and factors that enable or inhibit the flow of knowledge in organisations (Schutte & Snyman, 2006).

Furthermore, research has been conducted on the influence of corporate culture on KM techniques and technologies in organisations (Davel & Snyman, 2005); KM trends in SA law firms (du Plessis & du Toit, 2005); the challenges of tacit knowledge diffusion at Eli Lilly SA (Gichuru & Tobin, 2004); and the development of a framework of KM for world-class performance (Tobin & Snyman, 2004). In addition, attention has focused on the use of corporate intranets as a part of an enterprise's KM system (van der Walt, van Brakel & Kok, 2004), and the development of a strategic KM maturity model for the successful institutionalisation of KM (Kruger & Snyman, 2005).

Building on the work of Sandrock (2006), which explored the critical success factors for communities of practice at the Anglo American Corporation, this research project aims to examine the critical success factors needed for communities of practice within a single organizational context in South Africa, being Multichoice. Multichoice was chosen as the organizational context for this research project as it is regarded as a leader in knowledge management by the Knowledge Management Practitioner's Group of South Africa (Sandrock, 2008). Furthermore, this research aims to explore whether critical success factors differ by type and stage in the life cycle of communities of practice at Multichoice.

The attention will now turn to a review of the academic literature pertaining to knowledge management and communities of practice before a closer examination of critical success factors for communities of practice in organisations.

2. Chapter Two: Literature Review

The objective of this chapter is to provide a review of the literature pertaining to the research questions of this research project. This is undertaken by defining knowledge management and exploring the schools of thought related to the subject followed by an examination of the implementation of knowledge management. The attention of the chapter then shifts to explore a specific aspect of knowledge management - communities of practice. After defining and discussing the benefits of communities of practice, the types and stages in the life cycle of communities of practice are explored. The final section of this chapter examines the concept of critical success factors, with a specific emphasis on providing an overview of the literature on critical success factors for communities of practice.

2.1 Knowledge Management

In the post-industrial or knowledge economy, knowledge is viewed as a critical resource along with the other factors of production, being land, labour and capital. The importance of knowledge as a source of sustainable competitive advantage has been recognised by several scholars over the past 20 years (Drucker, 1993; Leonard-Barton, 1992; Nelson, 1991; Prahalad & Hamel, 1990; Quinn, 1992; Sveiby, 1997; and Toffler, 1990). Davis & Botkin (1994) argue that the effective use of knowledge has the capability to take an organisation to higher levels of performance. Knowledge provides a powerful capability

for organisations which is difficult to imitate. Successfully managing knowledge thus becomes a critical organisational capability.

2.1.1 Defining Knowledge Management

Tobin (2007) illustrates that there is no single, commonly agreed, definition of KM. KM has been defined as an approach to adding or creating value by more actively leveraging the know-how, experience, and judgement resident within and in many cases, outside of an organisation (Ruggles, 1998, p. 80 in Tobin, 2007). The European KM Forum (2002 in Tobin, 2007) defines KM as the broad process of locating, organising, transferring and using the information and expertise within an organisation, as well as the strategies and processes of identifying, capturing and leveraging knowledge to enhance competitiveness. Elsewhere, the European KM Forum defines knowledge management as an approach to improving an organization's capabilities through better use of the organization's individual and collective knowledge resources, and uses technology to share and leverage information for innovation (European KM Forum, 2002 in Tobin, 2007).

Knowledge management has also been defined as the strategies and methods of identifying, capturing and leveraging knowledge to help a firm compete (O'Dell, Wiig & Odem, 1999 in Tobin, 2007). More simply, knowledge management has been defined as a multi-disciplined approach to achieving organizational objectives by making the best use of knowledge (Tobin, 2007). Rumizen (2002 in Tobin, 2007) defines knowledge

management as the manner in which an organization identifies, creates, captures, acquires, shares and leverages knowledge. Focusing on the context in which knowledge may be managed, knowledge management has also been defined as the creation and subsequent management of an environment which encourages knowledge to be created, shared, learnt, enhanced, organized and utilized for the benefit of the organization and its customers (BSI, 2003 in Tobin, 2007).

2.1.2 KM schools of thought

Earl (2001) has identified three broad schools of KM: technocratic, economic, and behavioural. Earl (2001) argues that the technocratic approach is based on information or management technologies, which support and condition employees (or knowledge workers). The economic school is commercial in orientation and aims to create revenue streams from the exploitation of knowledge and intellectual capital. The behavioural school aims to encourage managers to be proactive in the creation, sharing and use of knowledge as a resource (Earl, 2001). Both Earl (2001) and Binney (2001) argue that no one school or approach is superior, but rather that an organisation's KM strategy needs to fit its business strategy and organisational culture.

The technocratic approach includes the capturing of specialist knowledge in knowledge bases, which other specialists can access (Earl, 2001). The technocratic approach also includes the mapping of organisational knowledge, which aims to record and disclose who in the organisation knows what by building knowledge directories, often called

yellow pages (Earl, 2001). Similarly, Binney (2001) has identified transactional, and analytic, KM which tend to overlap with Earl's (2001) technocratic school.

Earl's (2001) economic school is primarily concerned with the exploitation of knowledge or intellectual assets (such as trademarks, patents, copyrights) to produce revenue, and is least concerned with exploration. Similarly, Binney (2001) has identified knowledge asset management, which includes explicit knowledge assets and intellectual property.

Earl's (2001) behavioural approach involves the use of organisational structures and networks to share and pool knowledge, often termed knowledge communities. The behavioural school also includes the use of space to facilitate knowledge exchange, especially the exchange of tacit knowledge (Earl, 2001). In addition, the behavioural school seeks to raise awareness about the value creation possibilities available from recognising knowledge as a resource (Earl, 2001). Binney (2001) has identified process-based, developmental, and innovation/creation KM, which coincide with the broad behavioural school of Earl (2001).

Nonaka *et al* (2001) argue that traditional approaches to knowledge management fail to capture the essence of an organisation as a knowledge creating entity. Instead of solving problems, organisations create and define problems and then develop new knowledge to solve problems by actively interacting with their environments and reshaping environments and even organisations themselves. Nonaka *et al* (2001) thus argue that KM should not aim to achieve a static management of information or knowledge, but a

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dynamic management of the process of creating knowledge out of existing knowledge. Nonaka *et al* (2001) advance an approach to KM that conceptualises knowledge as relative, dynamic, humanistic, and context-specific.

Nonaka *et al* (2001) note that there are two kinds of knowledge: explicit knowledge and tacit knowledge. Explicit knowledge may be expressed in words and numbers, and shared in the form of data, specifications and manuals. Tacit knowledge is highly personal and difficult to formalise, which makes it difficult to communicate and share with others. Tacit knowledge is deeply rooted in an individual's actions, experiences, ideals, values and emotions. Nonaka *et al* (2001) argue that explicit and tacit knowledge interact and change into each other in the creative activities of humans. The interaction between explicit and tacit knowledge is termed knowledge conversion.

Nonaka *et al* (2001) argue that there are four modes of knowledge conversion: socialisation (from tacit knowledge to tacit knowledge); externalisation (from tacit knowledge to explicit knowledge); combination (from explicit knowledge to explicit knowledge); and internalisation (from explicit knowledge to tacit knowledge). According to Nonaka *et al* (2001), knowledge is created through the interactions amongst individuals and with the environment, and not by individuals alone.

Grover & Davenport (2001) argue that although both explicit and tacit knowledge are important, tacit knowledge cannot be easily expressed whist explicit knowledge is easy to codify. Zack (1999) argues that tacit knowledge is subconsciously understood and

applied, and is usually shared through highly interactive conversation, storytelling and shared experience. Explicit knowledge is more precisely and formally articulated, and represents the things we can write down, share with others and place in databases.

Wenger *et al* (2002) argue that tacit knowledge is often more valuable to organisations than explicit knowledge. Tacit knowledge consists of embodied expertise including a deep understanding of complex, interdependent systems that enables dynamic response to context-specific problems. Moreover, tacit knowledge is very difficult for competitors to replicate. According to Wenger *et al* (2002), sharing tacit knowledge requires interaction and informal learning processes such as storytelling, conversation, coaching, and apprenticeship of the kind that communities of practice provide. In addition, Wenger *et al* (2002) are of the view that to be applied explicit knowledge is dependent on tacit knowledge.

2.1.3 Implementation of KM

Much of the recent international literature on the implementation of KM in organisations highlights the centrality of organisational systems, organisational culture and people (Carrillo, 2004; Currie & Kerrin, 2004; Damodaran & Olphert, 2000; Hwang, 2005; Kulkarni, Ravindran & Freeze, 2006; Li, Wu Liao & Zhen Lei, 2006; Limone & Bastias, 2006; Robinson, Carrillo, Anumba & Al-Ghassani, 2004). Accordingly, the literature acknowledges and supports the broad behavioural approach identified by Earl (2001), with a concomitant decline in support for the technocratic approach. Moreover, there

appears to be an emerging consensus in the international literature that the technology-push approach to KM implementation has serious limitations – regardless of organisational strategy and culture, as argued by both Earl (2001) and Binney (2001).

Limone & Bastias (2006) argue that KM has traditionally focused on the implementation of information technology, with a greater emphasis on technology rather than on information or knowledge. Limone & Bastias (2006) are of the view that authentic KM needs to study both individual and organisational knowledge and learning. Li *et al* (2006) argue that the most important aspect to the successful implementation of a system implementation is the management thereof, rather than the technology itself.

Kulkarni *et al* (2006) argue that the emphasis in KM-related information systems research has been on improving KM applications and systems, and their implementation across corporate intranets. Kulkarni *et al* (2006) argue for the inclusion of organisational factors, such as leadership commitment, supervisor and co-worker support, and incentives – together with technological factors in the study of KM implementations. Similarly, Hwang (2005) highlights the importance of culture and informal controls such as uncertainty avoidance and perceived enjoyment in the successful implementation of technology systems.

Robinson *et al* (2004) identify the following barriers to the successful implementation of KM: organisational culture; resistance to sharing of knowledge; lack of top management support; poor IT infrastructure; failure to demonstrate and communicate the benefits of

KM; initiative overload; and conflicting priorities. Similarly, Currie & Kerrin (2004) emphasise the limits to technology in the pursuit of KM, and argue that technical fixes to KM serve to harden existing practices and routines, rather than open up new directions.

Damodaran & Olphert (2000) argue that a technology push approach to KM has serious limitations, and that information management system implementation will be unsuccessful if human and organisational issues are neglected. Of central importance is the development of a knowledge sharing culture to enable effective KM.

The South African literature on KM implementation evidently reinforces the international literature, with the central theme being the limitations to the overtly technocratic approach to KM implementation without recognising the organisational, cultural and people elements. Kruger & Snyman (2005) argue that there appears to be a consensus in the literature regarding the enabling role that ICT plays. It is further noted, however, that the focus on ICT enablement may have resulted in a lack of acknowledgement of the organisational context in which KM occurs. Similarly, Davel & Snyman (2005) argue that various obstacles exist regarding the implementation of KM techniques and technologies, and examine the role of corporate culture in persuading or discouraging individuals in their use of KM techniques and technologies.

The attention now turns to a review of the literature on a particular method of managing knowledge, especially tacit knowledge, in organizations – communities of practice.

2.2 Communities of Practice

2.2.1 Defining Communities of Practice

Wenger *et al* (2002) define communities of practice (CoP) as groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. Wenger *et al* (2002) note that CoP are not a new idea, being society's first knowledge-based social structures. However, with organisations becoming more intentional and systematic about managing knowledge, they need to give these age-old social structures a new, central role in business. Wenger *et al* (2002) argue that cultivating CoP in strategic areas is a practical way to manage knowledge as an asset, just as systematically as organisations manage other assets. Accordingly, CoP are viewed as integral to an organisation's knowledge strategy.

Enkel, Heinold, Hofer-Alfeis & Wicki (2002) note that the phenomenon of CoP first appeared in the scientific literature in the early 1990s in a study on service technicians at Xerox. There were considerable differences between the formal description of their work in their manuals and the actual procedures followed when correcting defects in copying machines. Service technicians would consult each other on how to correct problems rather than refer to their manuals. Enkel *et al* (2002) note that the result was a CoP in which technicians exchanged information with each other on a regular basis.

Bauer (1999) argues that CoP have four key attributes. First, CoP are multi-functional with members from different functions with different perspectives interacting with a common purpose. Second, CoP have a sense of mission. Third, CoP require time to develop. A group that has been working for a while together develops an internal language and new skills of their own. Fourth, CoP share a unique intellectual property that is applied to their work (Bauer, 1999).

Von Krogh, Ichijo & Nonaka (2000) argue that the bottleneck in knowledge creation usually occurs when individual members know nothing or very little before they have shared their tacit knowledge. It is argued that for new tacit knowledge to emerge through socialisation the group must be small (five to seven members). Von Krogh *et al* (1999) coin the term micro-communities of knowledge, and argue that over time they develop their own rituals, languages, practices, norms and values.

Dube, Bourhis & Jacob (2005) note that one of the most powerful ways to create new organisational capacities is to manage knowledge through collaborative work. CoP are groups of people who come together to share and learn from one another, and are viewed as an innovative way to combine working, learning and innovating. Dube *et al* (2005) are of the view that CoP may be able to counteract the negative aspects of a traditional organisational hierarchy within the context of the virtual economy, and thus are of benefit to both individuals and organisations.

Dube *et al* (2005) note that traditionally CoP have relied on face-to-face meetings, but in the virtual economy new collaborative technologies have allowed CoP to become virtual using new information and communication technologies and internet capabilities. Moreover, Dube *et al* (2005) argue that there is an increased awareness that CoP need to be managed and should be part of a systematic and strategic approach by the organisation to promote the effective use of intellectual capital. However, it is cautioned that organisational involvement in CoP is a delicate matter as autonomy and independence is needed by CoP in order to innovate (Dube *et al*, 2005).

Wenger & Snyder (2000) note that a CoP can exist entirely within a business unit or stretch across divisional boundaries – or even across organisations. Further, a CoP may be comprised of tens or even hundreds of people, but typically it has a core of participants whose passion for the topic energises the CoP and who provide intellectual and social leadership. Also, Wenger & Snyder (2000) argue that CoP are informal in that they organise themselves and establish their own leadership, with membership of a CoP being self-selective. Importantly, Wenger & Snyder (2000) argue that although CoPs are fundamentally informal and self-organising, they benefit from cultivation, including the identification of CoPs that will enhance an organisation's strategic capabilities; provide the infrastructure to support CoPs; and use non-traditional methods to assess the value of CoPs.

McDermott (2000) argues that the real value in knowledge management is in sharing ideas and insights that are not documented and hard to articulate – tacit knowledge.

However, McDermott (2000) argues that using typical knowledge management methods to leverage tacit knowledge often results in information junkyards and empty libraries. McDermott (2000) advocates the use of CoPs as key to leveraging tacit knowledge. Importantly, CoPs are dependent on trust amongst community members (McDermott, 2000).

The benefits of CoPs have been documented by Wenger *et al* (2002) and include improved decision making and reduced costs linked to efficient access to information; promotion of calculated risk-taking and innovation through an increased sense of trust; promotion of organisational integration and synergy; assistance with the implementation of a strategic plan and the design of a new strategy; human capital skills development; human capital retention; enhance relations amongst community members; connection of the personal development and professional identities of practitioners to the strategy of the organisation; and the delivery of value to both community members and the organisations to which the members belong.

2.2.2 Types of Communities of Practice

Wenger *et al* (2002) note that CoP take a variety of forms. Some CoP may be small (less than ten specialists) whilst others may be large comprising hundreds of members. It is also noted that the development of communities takes time but the life span of CoP varies widely from a year to centuries. Wenger *et al* (2002) argue that sharing a practice requires regular interaction, and that naturally, then, many CoP start among people who

work at the same place or live nearby. However, co-location is not necessary, with many CoP being distributed over wide geographic areas – even across the globe. Moreover, Wenger *et al* (2002) argue that CoP may be homogeneous with members derived from the same functional specialisation, whilst others may be heterogeneous.

Dube *et al* (2005) note that CoP may be deliberately established by management who define its purpose and select its key members (top-down approach). Alternatively, a CoP may develop spontaneously by several interested members (bottom-up approach).

The American Productivity and Quality Centre (APQC) has detailed four generic types of CoPs (Vestal, 2001), including communities in which members collaborate to solve everyday problems; communities which develop and disseminate best practices, guidelines and procedures; communities that build, organise, manage and steward a body of knowledge; and communities which innovate and create breakthrough ideas, knowledge and practices.

McDermott (2000) argues the case for four generic types of CoPs: communities that are linked to a strategic objective; communities that focus on tactical processes, process optimisation and sharing of best practice; project-based communities that are developed for the duration of a specific project; and knowledge-nurture communities that focus on developing a particular body of knowledge.

The four generic CoP types identified by McDermott (2000) will be used in this research project owing to their clarity and simplicity of definition.

2.2.3 Life Cycle of Communities of Practice

Wenger *et al* (2002) argue that CoP are not born in their final state but evolve through a natural cycle of birth, growth and death. It is argued that CoP evolve through five stages of development: potential, coalescing, maturing, stewardship, and transformation. Wenger *et al* (2002) are of the view that CoP typically start as loose networks that have the potential of becoming connected and thus a more important part of the organisation. As members build connections they coalesce into a community. Once formed, the community often grows in both membership and the depth of knowledge shared by members. When mature, communities move through cycles of high and low activity. During the mature stage communities take active stewardship of the knowledge and practices shared and which are consciously developed (Wenger *et al*, 2002).

Wenger *et al* (2002) describe each phase of the CoP life cycle as follows:

- Potential: define the scope of the domain; finding interested members of the community; and identify common knowledge needs.

- Coalescing: establish the value of sharing knowledge as a community; members develop relationships and sufficient trust; define what knowledge needs to be shared and how this should be done.

- Maturing: define the role of the community in the organisation and its relationship to other domains; manage the expanding boundary of the community to ensure that it is not distracted from its core purpose; shift from simply sharing ideas and insights to organising the community's knowledge and taking stewardship seriously.

- Stewardship: maintain the relevance of the domain and find a voice in the organisation; keep the tone and intellectual focus of the community lively and engaging; retain the community at the cutting edge.

- Transformation: a community may dissolve owing to a lack of interest and loss of membership. Alternatively, a community may receive a lease on life and return to an earlier incubation or growth phase.

Similar to Wenger *et* al (2002), De Bruijn (2001) identified four phases in the life cycle of CoP:

- Committing – conceptualisation and planning of the community. In this phase there is an attempt to understand the relevant information, explicit and tacit knowledge, and intellectual capital;

- Start-up – launch of the community, identification of a leader, facilitator and key members. This phase also involves defining the goals of the community, goal measurement, and defining the domain of the community;

- Operating – this phase involves knowledge sharing, building knowledge assets, and working to achieve the goals.

- Winding down – occurs when the community has achieved its goals and the community is no longer relevant.

This research project will make use of the five phases identified by Wenger *et al* (2002).

Having considered the literature on communities of practice, with a focus on the types and stages in the life cycle of communities of practice, the focus turns to exploring critical success factors for communities of practice. Before this is undertaken, however, a brief review is supplied of the concept of critical success factors.

2.3 Critical Success Factors for Communities of Practice

Evidently, a very limited body of literature exists on the theoretical foundations of the concept of critical success factors. However, the concept is simple enough to apply without difficulty. A more substantive body of literature is available examining the critical success factors for communities of practice.

2.3.1 Defining critical success factors

The critical success factor (CSF) approach was developed by the Sloan School of Management in the late 1970s, according to Rockart (1979). CSFs are those performance factors which must receive the on-going attention of management if the organisation, department or individual are to remain competitive (Rockart, 1979). CSFs are the few

key areas where `things must go right' for an organisation to be successful and for the manager's goals to be attained (Bullen & Rockart, 1981).

The identification of CSFs can assist management by determining where management attention should be directed; developing measures for CSFs; and determining the amount of information required and thus limiting unnecessary data gathering. CSFs assist in the attainment of organisational goals (Rockart, 1979). The value of the CSF approach is to make a few number of key success areas explicit and not merely implicit (Bullen & Rockart, 1981).

Bullen & Rockart (1981) argue that CSFs are related to the specifics of a particular manager's situation. This means that CSFs need to be tailored to the industry, the company, and the individual. Furthermore, CSFs will often change as the industry's environment changes, as the company's position in the industry changes, or as particular problems or opportunities arise for a particular manager. In addition, Bullen & Rockart (1981) argue that CSFs derive from five main sources: the industry; competitive strategy and industry position; environmental factors; temporal factors; and managerial position.

Several scholars have applied the concept of CSFs to CoP in an effort to improve the management of tacit knowledge in organisations.

2.3.2 Critical Success Factors for Communities of Practice

Wenger *et al* (2002) argue that there are seven key principles for cultivating CoP. First, CoP should be designed so as to shepherd and catalyze their evolution rather than creating them from scratch. Second, community design requires an understanding of the community's potential to develop and steward knowledge but it often takes an outside perspective to assist members view the possibilities. Third, good community design invites many different levels of participation, including a co-ordinator, a core group, an active group, a peripheral group, and outsiders.

Fourth, dynamic communities are rich with connections that occur in public spaces (meetings and web site) and in private spaces between group members. Fifth, communities thrive when they focus on delivering value to the organisation, to the teams in which members serve, and to the community members themselves. Value is key to communities in view of participation being voluntary in most CoP. Sixth, successful communities combine familiarity (a regular pattern of meetings, teleconferences, projects, web site) and excitement to be fully engaged. Seventh, vibrant communities create a rhythm: regular meetings, teleconferences, web site activity and informal lunches, which provide the community with a sense of movement and liveliness (Wenger *et al*, 2002).

Wenger (2000) argues that nurturing CoP in organisations requires attention in four areas. Community development needs to be placed in the context of a broader knowledge strategy, which is further linked to the business strategy. This will assist CoP to articulate

their strategic value. Second, the orientation of the organisation toward the value of knowledge and learning is critical. Organisations can support CoP by legitimating participation and recognising the work of sustaining them, and by providing members with the time to participate in activities. Third, Wenger (2000) argues that organisational systems, such as compensation and recognition, need to be aligned to supporting rather than inadvertently penalising the work involved in building CoP. Fourth, whist CoP are mostly self-sufficient, they do require certain organisational resources.

Enkel *et al* (2002) argue that trust, care and identity play an important role in sharing knowledge and skills within CoP. Members of communities are linked socially, cognitively, and emotionally. Relationships based on trust and care provide a safe environment for knowledge and skills sharing (Enkel *et al*, 2002). Moreover, it is argued that establishing a central corporate unit in an organisation signals that management places a high value on supporting CoP. In addition, the values and culture of the organisation need to be aligned to and supportive of CoP (Enkel *et al*, 2002).

Franz, Freudenthaler, Kameny & Schoen (2002) argue that for a CoP to operate successfully a basic framework is required, and that the absence of the following success factors usually leads to barriers which strongly inhibit the success of the CoP:

- People and competencies – members should have a strong common interest as well as expertise on the subject;
- Culture and collaboration – the willingness to exchange knowledge and to collaborate requires trust and a `we' attitude;

- Strategy and objectives – the better the core objectives and subject of the CoP fit the business goals, the better the potential benefits for members and the organisation;

- Knowledge content and structure – the subject of the CoP should be focused and clearly structured;

- Processes, roles and organisation – a committed, recognised and well organised facilitator as well as engaged, active members are the key success factors to CoP;

- Leadership and management support – CoP perform better if supported by management and financially funded by a sponsor; and

- Information and communication infrastructure – a platform that supports all important communication channels.

Vestal (2001) argues that effective CoP need to exhibit most (if not all) of the following traits:

- Compelling, clear business value proposition;

- Dedicated, skilled leader;

- Coherent, comprehensive knowledge map for the core content of the CoP;

- Knowledge sharing process that is clear and easy to follow;

- Appropriate technology medium that facilitates knowledge exchange, retrieval and collaboration;

- Communication and training plans for those outside of the CoP;

- An updated and dynamic roster of members of the CoP;

- Several key metrics of success to show business results;

- A recognition plan for participants; and

- An agenda of topics to cover the first six months of the CoP's existence.

McDermott (2000) argues that there are four key challenges in starting and supporting communities capable of sharing tacit knowledge. The management challenge is to communicate that the organisation truly values the sharing of knowledge. The community challenge is to create real value for community members and ensure that the community shares cutting edge thinking, rather than sophisticated copying. The technical challenge is to design human and information systems that not only make information available but assist community members to think together. The personal challenge is to be open to the ideas of others and maintain a thirst for developing the community's practice (McDermott, 2000).

McDermott (2000) argues that the following factors are critical to the success of CoPs, and that without these factors CoP tend to flounder or fail:

- Focus on topics important to the business and community members;

- Identify a well-respected community member to co-ordinate the community;

- Ensure that members are encouraged and have the time to participate;

- Build on the core values of the organisation;

- Involve key thought leaders in the CoP;

- Build personal relationships amongst community members;

- Develop an active and passionate core group;

- Create forums for thinking together and systems for sharing information;

- Make it easy to contribute and access the community's knowledge and practices; and

- Create real dialogue about cutting edge issues.

2.4 Summary

Effectively designing and implementing a sound knowledge management (KM) strategy and becoming a knowledge-based company are viewed as a mandatory condition for organisational success in the context of the knowledge economy (Binney, 2001). However, Nonaka *et al* (2001) argue that despite the increased scholarly focus on KM, the creation and management of knowledge within organisations has received limited attention. Indeed, a recent survey on west European firms by The Economist Intelligence Unit (2005), found that a majority a firms recognise the importance of KM technology solutions to achieving their goals. However, many firms have a poor record in capturing and exploiting information and knowledge, with overly complex technology together with internal barriers between business departments preventing firms from turning raw information into actionable knowledge.

A body of international literature exists on the role of communities of practice in managing knowledge in organisations, which has been reviewed in this chapter. However, the South African literature is largely silent on communities of practice as a means of managing knowledge, with the notable exceptions of Sandrock (2006) and van den Berg & Snyman (2003). An opportunity exists to examine the critical success factors

to implementing communities of practice in an organisational context against the backdrop of the poor record in capturing and exploiting information and knowledge, as identified by The Economist Intelligence Unit (2005). The local literature touches on elements which are involved in the implementation of KM in general. However, research focusing specifically on communities of practice represents an area for further research in the South African context, as well as an opportunity to build on the work of Sandrock (2006).

To this end, the critical success factors for communities of practice will be examined in an organizational context. As described in this chapter, communities of practice differ by both type and stage in the life cycle. The aim of this research project will be to determine the critical success factors for communities of practice, as well as to assess whether critical success factors differ by type and stage in the life cycle within a single organizational context.

The list of CSFs to be used for the purposes of this research based on the literature review is as follows:

- Role of leader/facilitator

- Role of the core group

- Regular interactions, meetings, engagements amongst members

- Quality of content

- Linked to business strategy

- Clear goals & value proposition

- Supportive organisational culture & values (trust & care)

- Supportive line management

- Supportive information & communication infrastructure

- Able to measure success of CoP

The focus now shifts to outlining the research problem and research questions of this research project. Thereafter, the research methodology employed in this project will be detailed.

3. Chapter Three: Research Questions

The review of the literature undertaken in the preceding chapter suggests that a limited body of literature exists in the South African context on organizations managing tacit knowledge through communities of practice. The objective of chapter three is to outline the research questions of this research project following the literature review and subsequent identification of a research gap in the South African literature on knowledge management.

Building on the work of Sandrock (2006) which analyzed the critical success factors to communities of practice at the Anglo American Corporation, the research problem of this research project is to analyse the critical success factors to the communities of practice in an organisational context in South Africa, being Multichoice.

Multichoice is an organisation involved in the media and entertainment industry in South Africa, and has relatively recently established five communities of practice as a part of its knowledge management programme (refer to annexure one). Multichoice hosts a limited quantity of communities of practice, and which are smaller in size, compared with Anglo American Corporation (Sandrock, 2006). However, Multichoice is acknowledged by the Knowledge Management Practitioner's Group of South Africa as a leading organization with regard to knowledge management – as is the Anglo American Corporation (Sandrock, 2008).

The research problem of this research project is underpinned by the following research questions:

1. What are the critical success factors for communities of practice at Multichoice?

2. Do the critical success factors vary with the type of community of practice?

3. Do the critical success factors vary with the stage in the life cycle of the community of practice?

The attention now turns to the research methodology employed in this research project which is utilized to analyse the research problem and questions.

4. Chapter Four: Research Methodology

Tobin (2006) notes that social science research may be based on a positivist or a phenomenological research philosophy. The positivist paradigm is based on the premise that science is value-free and that the researcher is independent of the research subject matter. This contrasts with the phenomenological paradigm in which the world is socially-constructed and subjective, and the researcher is part of what is being observed, and is not value-neutral. Tobin (2006) further indicates that research may be based on an empirical or a non-empirical approach. Empirical research is defined as data based on observation or experience. Furthermore, empirical research may either be qualitative or quantitative, deductive or inductive, and subjective or objective (Tobin, 2006).

Tobin (2006) argues that quantitative research methods were originally developed in the natural sciences, but are now used in the social sciences and take the form of surveys, laboratory experiments, econometrics and mathematical modelling. Qualitative methods derived from the social sciences, and include action research, case study research, and ethnography. Tobin (2006) further indicates that deductive research involves the use of empirical observation to test theory. This contrasts with inductive research in which theory is developed from empirical evidence. Subjective research involves the researcher being involved in and influencing the research outcome, whilst objective research requires the researcher to remain independent in the research process (Tobin, 2006).

Moreover, there are several research design options available to social researchers including experiments, surveys, grounded theory, ethnography, action research, modelling, operational research, and case studies (Tobin, 2006).

4.1 Method

A deductive, quantitative approach within the positivist paradigm was adopted in this research project. Specifically, the descriptive survey approach was utilised (Tobin, 2006; Zikmund, 2003). Zikmund (2003) notes that the purpose of survey research is to collect primary data from a sample of people by use of a questionnaire or interview. In addition, surveys provide quick, inexpensive, efficient and accurate means of assessing information concerning a population.

The quantitative approach was chosen since a fair amount of information exists in the academic literature on the critical success factors (CSFs) required to implement communities of practice in organisations – as reviewed in chapter two. The objective of this research was to assess which CSFs identified in the academic literature were rated as being most relevant to communities of practice at Multichoice, and, furthermore, to assess whether CSFs vary with the types and life cycle phases of communities of practice within a single organisational context. Accordingly, a descriptive survey approach, rather than a qualitative or exploratory approach, was deemed appropriate to realise the research objective.

The survey questionnaire approach was the basic research method chosen for this research (Zikmund, 2003). A non-probability sample design was chosen in light of respondents belonging to a single organisation with a limited quantity of respondents within the organisation also belonging to a community of practice. Also, the intention of this research was not to attempt to generalise the findings of the research beyond the boundaries of the organisation under investigation. The need for probability sampling was thus not relevant for the purposes of this research (Zikmund, 2003).

An electronic on-line questionnaire was used to collect the data in view of the associated benefits being speed of distribution, lower distribution and processing costs, more flexibility, and less handling of paper questionnaires (Zikmund, 2003). The bulk of questions were structured and close-ended, with a choice of limited options. Also, Lickert scale questions were utilised. In addition, there was one open-ended, unstructured question to allow respondents flexibility in responding (Zikmund, 2003). Descriptive statistics methods were then used to analyse the data, including the use of mode, mean, median and standard deviation.

4.2 Unit of analysis

Zikmund (2003) defines the unit of analysis as the level of investigation for data collection, and can be the entire organisation, departments, work groups, individuals, or objects. The unit of analysis in this research project was the community of practice, which is comprised of several individuals.

4.3 Population & sample

A population is defined as a complete group of entities sharing some common set of characteristics (Zikmund, 2003). The population in this research project was defined as all members of all communities of practice operating at a single organisation, being Multichoice. Multichoice has five communities of practice and each community has an average of ten members. The population of this research project was fifty-one (51) people who are currently members of communities of practice at Multichoice.

A sample is defined as a subset or a part of a larger population (Zikmund, 2003). In this research project all members of the population of 51 were selected to be questionnaire surveyed. Accordingly, non-probability sampling was used – specifically, judgement (or purposive) sampling (Zikmund, 2003). Non-probability sampling is defined as a sampling technique in which units of the sample are selected on the basis of personal judgement or convenience. Judgement sampling is a (non-probability) sampling technique in which an experienced individual selects the sample based on some appropriate characteristic of the sample members (Zikmund, 2003). Importantly, it is not possible to project the data beyond the sample when using non-probability sampling (Zikmund, 2003).

4.4 Data collection

The researcher made use of Multichoice's on-line questionnaire survey infrastructure for data collection. Respondents were not required to interface with an interviewer since the questionnaire was on-line. The advantage of using an on-line questionnaire was that the method minimised errors associated with the interviewer, such as interviewer bias, interviewer error, and interviewer cheating (Zikmund, 2003).

The respondents received an e-mail inviting them to participate in the survey, with a link to the electronic questionnaire. Responses to the questionnaire were automatically collated in the survey tool and the data was downloaded to a spreadsheet for data analysis.

The on-line questionnaire contained structured, closed-ended questions, Lickert scale questions, and an open-ended, unstructured question (Zikmund, 2003). The choice of close-ended and Lickert scale questions was deliberate so as to facilitate quantitative analysis. The inclusion of the unstructured question served the purpose of allowing respondents an element of flexibility and the opportunity to include responses that were not mentioned in the questionnaire (Zikmund, 2003). The questionnaire is shown in annexure two.

4.5 Data analysis

Descriptive statistics was used to analyse the response data gleaned from the questionnaire, specifically, the mode, mean, median and standard deviation. Zikmund (2003) defines the mode as a measure of central tendency or the value that occurs the most often. Mean is a measure of central tendency and represents the arithmetic average. The standard deviation is a quantitative index of a distribution's spread or variability or the square root of the variance (Zikmund, 2003).

To enable quantitative analysis of the questionnaire responses, the data needed to be converted into a numeric format. The following numeric values were allocated to the types and life cycle stages of the CoP, as follows:

Types of CoP:
- Strategic – 1
- Tactical – 2
- Project – 3
- Knowledge nurture – 4

Stage in life cycle:
- Potential - 1
- Coalescing - 2
- Maturing - 3
- Stewardship - 4

- Transformation - 5

The Lickert scale options were also converted into numeric values to enable quantitative analysis, as follows:

- Not necessary - 0

- Nice to have - 1

- Important - 2

- Critical - 3

4.6 Limitations

The research was limited in that a non-probability sampling design was chosen. This limited the results of the research to the organisation under research and meant that the results could not be inferred or generalised to a broader population of communities of practice.

The research did not attempt to understand the reasons underlying respondent ratings of the pre-defined CSFs as would have been possible using a qualitative research method. As such, the results are limited to describing the views of respondents based on pre-defined options. More in-depth qualitative research may have permitted a more nuanced understanding of the CSFs pertaining to communities of practice at Multichoice, and may have enriched the value of the recommendations to Multichoice.

The organisation chosen for this research project had relatively recently established its CoPs. This served to limit the experience of the members of the CoPs surveyed as well as the structural life cycle stage of the CoPs, and should be considered when interpreting the results.

The results of this survey represent a description of the CSFs for CoPs at a point in time (snap shot in time), and not over a period of time (longitudinal study).

The objective of this chapter was to outline the research methodology employed in the execution of this research project. The focus now turns to a description of the results of the research, followed by a discussion and analysis of the research results.

5. Chapter Five: Results

The objective of this chapter is to present the results of the questionnaire survey. The results will be presented in accordance with the three research questions of this research project. First, what are the critical success factors for communities of practice at Multichoice? Second, do the critical success factors vary with the type of community of practice at Multichoice? Third, do the critical success factors vary with the stage in the life cycle of the community of practice?

This chapter contains two main sections. First, the characteristics of the data obtained from the questionnaire survey are presented in accordance with the type and stage in the life cycle of the communities of practice at Multichoice. Second, the results of the questionnaire survey are illustrated and have been organized in accordance with the three research questions. The chapter concludes by briefly examining the relevance of the results data. The aim of this chapter is not to attempt to analyze the data from the questionnaire survey. A discussion and analysis of the results is undertaken in the following chapter.

As detailed in chapter two, this research project has made use of the four generic types of communities of practice as noted by McDermott (2000): communities that are linked to a strategic objective; communities that focus on tactical processes, process optimization, and sharing of best practice; project-based communities of practice; and knowledge-

nurture communities that focus on developing a particular body of knowledge. The results of the questionnaire survey used in this research have been organized accordingly.

With respect to the third research question, this research project has drawn on the framework advocated by Wenger *et al* (2002), which is outlined in detail in chapter two. Wenger *et al* (2002) identify five stages in the life cycle of communities of practice: potential; coalescing; maturing; stewardship; and transformation. The researcher simplified the terminology used by Wenger *et al* (2002) for use in this research project. However, the description of each life cycle stage as defined by Wenger *et al* (2002) has been retained.

The initial focus of this chapter is on sketching the characteristics of the data obtained from the questionnaire survey.

5.1 Data Characteristics

A total of thirty-nine (39) members of communities of practice (CoPs) responded to the on-line questionnaire out of the total population of fifty-one (51) members of CoPs at Multichoice. This represents a response rate of 76%, which was deemed to be acceptable with which to analyze the data and research questions, according to Zikmund (2003).

5.1.1 Data characteristics by type of community

The most prominent CoPs at Multichoice have been defined by members as being strategic (41%) and tactical (31%), as indicated in Figure 5. 1below.

Type of CoP	Quantity	Proportion of total
Strategic	16	41%
Tactical	12	31%
Project	6	15%
Knowledge-focused	5	13%

Figure 5. 1: Types of communities of practice at Multichoice

5.1.2 Data characteristics by stage in life cycle of community

An equal quantity of CoPs at Multichoice are described as being in the early (41%) and forming (41%) stages of their life cycles, followed by the mature (13%) and dissolved stages (5%), as shown in Figure 5. 2 below.

Life cycle stage	Quantity	Proportion of total
Early	16	41%
Forming	16	41%
Maturing	5	13%
Tapering-off	0	0%
Dissolved	2	5%

Figure 5. 2: Stages in the life cycle of communities of practice at Multichoice

5.1.3 Data characteristics by type and life cycle stage

Evidently, a majority of CoPs at Multichoice are located in the early and forming stages of their life cycles, with strategic CoPs in the early (23%) and forming (18%) stages predominant, followed by tactical CoPs in the forming (15%) and early (10%) stages.

	Early	Forming	Maturing	Tapering-off	Dissolved
Strategic	9 (23%)	7 (18%)	0	0	0
Tactical	4 (10%)	6 (15%)	2 (5%)	0	0
Project	1 (3%)	2 (5%)	3 (8%)	0	0
Knowledge-focused	2 (5%)	1 (3%)	0	0	2 (5%)

Figure 5. 3: Types and life cycle stages of communities of practice at Multichoice

The focus of the chapter now shifts from outlining the characteristics of the data accessed from the questionnaire survey to a description of the results of the survey.

5.2 Survey Results

The results of the questionnaire survey will now be presented in descriptive tabular format. The data are organized in accordance with the three research questions. Each set of data is presented and described in turn, without any attempt to understand or analyze the data. Data discussion and analysis is undertaken in chapter six.

5.2.1 Question One – What are the critical success factors for communities of practice at Multichoice?

The potential critical success factors for communities of practice at Multichoice are shown in Figure 5. 4 below. Evidently, all factors are viewed by members of communities as critical with the notable exception of two factors. These results are analyzed in detail in the following chapter.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	3	2.53	3	0.50
Line management support	3	2.71	3	0.45
Supportive ICT	3	2.41	3	0.67
Clear goals	3	2.82	3	0.38
Linked to strategic goals of organization	2	2.28	2	0.60
Measure success	1	1.84	2	0.87
Quality of content	3	2.51	3	0.50
Role of leader/facilitator	3	2.79	3	0.40
Role of core group	3	2.76	3	0.42
Regular participation	3	2.79	3	0.40

Figure 5. 4: Critical success factors for communities of practice at Multichoice

5.2.2 Question two – Critical success factors for communities of practice vary with the type of community

The literature review identified four main types of communities of practice: strategic, tactical, project-focused, and knowledge-focused. The data set has been disaggregated by each community of practice type and displayed accordingly. Analysis of the data by community of practice type in relation to proposition two is not undertaken in this chapter; this is reserved for chapter six.

Strategic Communities of Practice

The factors that are regarded as critical to the success of strategic communities of practice are illustrated in Figure 5. 5 below. There is a close resemblance between the critical success factors for all communities of practice at Multichoice as a whole, and those for communities of practice that have been defined as strategic by their members.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	3	2.68	3	0.47
Line management support	3	2.81	3	0.40
Supportive ICT	3	2.31	2.5	0.79
Clear goals	3	2.93	3	0.25
Linked to strategic goals of organization	2	2.37	2	0.5
Measure success	1	1.93	2	0.85
Quality of content	3	2.68	3	0.47
Role of leader/facilitator	3	2.81	3	0.40
Role of core group	3	2.68	3	0.47
Regular participation	3	2.81	3	0.40

Figure 5. 5: Critical success factors for strategic communities of practice at Multichoice

Tactical Communities of Practice

The data related to the tactical communities of practice at Multichoice was separated from the main data set. The results of the survey of the tactical communities of practice are shown in Figure 5. 6 below.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	3	2.58	3	0.51
Line management support	3	2.66	3	0.49
Supportive ICT	3	2.66	3	0.49
Clear goals	3	2.75	3	0.45
Linked to strategic goals of organization	2	2.25	2	0.62
Measure success	2	2.08	2	0.79
Quality of content	2	2.33	2	0.49
Role of leader/facilitator	3	2.91	3	0.28
Role of core group	3	2.83	3	0.38
Regular participation	3	2.91	3	0.28

Figure 5. 6: Critical success factors for tactical communities of practice at Multichoice

Project-based Communities of Practice

The data pertaining to the project-focused communities of practice was extracted from the main data set and is detailed below in Figure 5. 7 below.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	2	2.00	2	0.40
Line management support	3	2.50	2.5	0.54
Supportive ICT	2	2.16	2	0.75
Clear goals	3	2.66	3	0.51
Linked to strategic goals of organization	2	2.16	2	0.75
Measure success	1	1.50	1	0.83
Quality of content	3	2.50	2.5	0.54
Role of leader/facilitator	3	2.83	3	0.40
Role of core group	3	3.00	3	0
Regular participation	3	2.66	3	0.51

Figure 5. 7: Critical success factors for project-based communities of practice at Multichoice

Knowledge-focused Communities of Practice

The data related to knowledge-focused communities of practice was disaggregated from the main data set and is shown below in Figure 5. 8 below.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	2	2.4	2	0.54
Line management support	3	2.8	3	0.44
Supportive ICT	2	2.4	2	0.54
Clear goals	3	2.8	3	0.44
Linked to strategic goals of organization	2	2.2	2	0.83
Measure success	1	1.4	1	1.14
Quality of content	2	2.4	2	0.54
Role of leader/facilitator	2	2.4	2	0.54
Role of core group	3	2.6	3	0.54
Regular participation	3	2.6	3	0.54

Figure 5. 8: Critical success factors for knowledge-focused communities of practice at Multichoice

5.2.3 Question three – Critical success factors for communities of practice vary with the stage in the life cycle of the community

The literature review revealed five main stages of development in the life cycle of communities of practice: early stage, forming stage, maturing stage, tapering-off stage, and dissolved stage. The data pertaining to each stage in the life cycle of communities of practice were extracted to allow for an analysis of research question three. However, the analysis of the data is not undertaken in this chapter; this is completed in chapter six.

Early Stage

The critical success factors for communities of practice in the early stage of their life cycle at Multichoice were separated from the main data set. The results are provided in Figure 5. 9 below.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	3	2.62	3	0.50
Line management support	3	2.81	3	0.40
Supportive ICT	3	2.37	2.5	0.71
Clear goals	3	2.81	3	0.40
Linked to strategic goals of organization	2	2.18	2	0.65
Measure success	2	2.06	2	0.92
Quality of content	3	2.50	2.5	0.51
Role of leader/facilitator	3	2.75	3	0.44
Role of core group	3	2.75	3	0.44
Regular participation	3	2.75	3	0.44

Figure 5. 9: Critical success factors for early stage communities of practice at Multichoice

Forming Stage

Data on the potential critical success factors for communities of practice in the forming

stage was isolated from the main data set and computed as follows.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	3	2.56	3	0.51
Line management support	3	2.62	3	0.50
Supportive ICT	3	2.43	3	0.72
Clear goals	3	2.81	3	0.40
Linked to strategic goals of organization	2	2.25	2	0.57
Measure success	1	1.81	2	0.83
Quality of content	3	2.56	3	0.51
Role of leader/facilitator	3	2.81	3	0.40
Role of core group	3	2.68	3	0.47
Regular participation	3	2.81	3	0.40

Figure 5. 10: Critical success factors for forming stage communities of practice at Multichoice

Maturing Stage

The data on potential critical success factors for communities of practice in the maturing

stage of the life cycle were extracted from the main data set and is shown in summarized

form in Figure 5. 11 below.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	2	2.2	2	0.44
Line management support	3	2.6	3	0.54
Supportive ICT	3	2.6	3	0.54
Clear goals	3	2.8	3	0.44
Linked to strategic goals of organization	2	2.4	2	0.54
Measure success	1	1.6	1	0.89
Quality of content	2	2.4	2	0.54
Role of leader/facilitator	3	2.8	3	0.44
Role of core group	3	3	3	0
Regular participation	3	2.8	3	0.44

Figure 5. 11: Critical success factors for maturing stage communities of practice at Multichoice

Tapering-off Stage

There were no responses indicating a community of practice to be in the tapering-off stage of the life cycle at Multichoice.

Dissolved Stage

Only two respondents indicated that their community of practice was in the dissolved stage of the life cycle, as follows:

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	N/A	2.5	2.5	0.70
Line management support	3	3	3	0
Supportive ICT	2	2	2	0
Clear goals	3	3	3	0
Linked to strategic goals of organization	3	3	3	0
Measure success	1	1	1	0
Quality of content	N/A	2.5	2.5	0.70
Role of leader/facilitator	3	3	3	0
Role of core group	3	3	3	0
Regular participation	3	3	3	0

Figure 5. 12: Critical success factors for dissolved stage communities of practice at Multichoice

5.3 Relevance of data

A total of thirty-nine (39) members of communities of practice (CoPs) responded to the on-line questionnaire out of the total population of fifty-one (51) members of CoPs at Multichoice. This represents a response rate of 76%, which was deemed to be acceptable with which to analyze the data and research questions, according to Zikmund (2003).

The distribution of responses by type and stage in the life cycle of communities of practice at Multichoice is displayed below in Figure 5. 13 below. Evidently, certain of the data sub-sets contain low responses. With regard to the stage in the life cycle of the communities of practice, the tapering-off stage recorded no responses, whilst the dissolved stage recorded two responses. The tapering-off and dissolved stages should thus be regarded as not being relevant for the purposes of this research project.

	Early	Forming	Maturing	Tapering-off	Dissolved
Strategic	9 (23%)	7 (18%)	0	0	0
Tactical	4 (10%)	6 (15%)	2 (5%)	0	0
Project	1 (3%)	2 (5%)	3 (8%)	0	0
Knowledge-focused	2 (5%)	1 (3%)	0	0	2 (5%)

Figure 5. 13: Distribution of responses by type and life cycle stage of communities of practice at Multichoice

The objective of this chapter was to describe the results of the questionnaire survey. This was completed by examining the characteristics of the survey data followed by a description of the survey data results organized in accordance with the three research questions. The aim of the following chapter is to provide a discussion and analysis of the survey results.

6. Chapter Six: Discussion of Results

The aim of chapter six is to discuss and analyze the results of the questionnaire survey that were described in the preceding chapter. This will be undertaken in accordance with the three research questions of this research project. First, what are the critical success factors for communities of practice at Multichoice? Second, do the critical success factors vary with the type of community of practice at Multichoice? Third, do the critical success factors vary with the stage in the life cycle of the community of practice? The chapter is concluded with a summary of the analysis.

The analysis of the results reveals a strong resemblance between the critical success factors identified in the literature review and those rated by members of communities of practice at Multichoice. Furthermore, an analysis of the results of the survey demonstrates that critical success factors vary, albeit marginally, with both the type, and stage in the life cycle, of communities of practice at Multichoice.

6.1 Research question one – what are the critical success factors for communities of practice at Multichoice?

All of the potential critical success factors that were identified in the literature review, with the exception of two factors, were identified by the survey respondents as being critical to the success of communities of practice at Multichoice – as evident in table 6.1 below. Evidently, strong support exists amongst the respondents of this survey for the potential factors that were identified in the literature review as being critical to the

success of communities of practice at Multichoice. The results of this survey thus broadly support the arguments of Wenger *et al* (2002), Wenger (2000), Enkel *et al* (2002), Franz, Freudenthaler, Kameny & Schoen (2002), Vestal (2001), and McDermott (2000) with respect to the critical success factors needed for communities of practice.

Factors identified by respondents as being of top priority include clear goals, the role of the leader or facilitator, the role of the core group of the community of practice, and regular participation of members of communities. The standard deviation for these factors was low reflecting limited divergence of opinion amongst respondents with respect to the top priority of these factors.

The factor that was viewed by respondents as being of least value to the success of their communities of practice was the need to measure the success of the community of practice. This factor was rated by respondents as `nice to have', although there was a relatively high degree of response variance as evidenced by the high standard deviation. Furthermore, the need for a community of practice to be linked to the strategic goals of the organization was viewed as an `important', but not `critical', success factor.

The results of this survey thus challenge certain parts of the arguments of Wenger (2000) and Franz *et al* (2002) with regard to the link between the goals of the community of practice and the strategic goals of the organization, which was rated by respondents as 'important' but not `critical' to the success of communities at Multichoice. In particular, members of communities at Multichoice challenge the argument of Vestal (2001) that

several key metrics of success are needed for communities of practice to show business results.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Critical	Critical	Critical	Acceptable
Line management support	Critical	Critical	Critical	Low
Supportive ICT	Critical	Important	Critical	Acceptable
Clear goals	Critical	Critical	Critical	Low
Linked to strategic goals of organization	Important	Important	Important	Acceptable
Measure success	Nice to have	Important	Important	High
Quality of content	Critical	Critical	Critical	Acceptable
Role of leader/facilitator	Critical	Critical	Critical	Low
Role of core group	Critical	Critical	Critical	Low
Regular participation	Critical	Critical	Critical	Low

Figure 6. 1: Critical success factors for communities of practice at Multichoice

6.2 Summary of analysis – what are the critical success factors for communities of practice at Multichoice?

All of the potential critical success factors that were identified in the literature review, with the exception of two factors, were identified by the survey respondents as being critical to the success of communities of practice at Multichoice. Factors identified as being of top priority include clear goals, the role of the leader or facilitator, the role of the core group of the community, and regular participation of members of communities of practice.

6.3 Research question two - do the critical success factors vary with the type of community of practice at Multichoice?

The literature review identified four main types of communities of practice: strategic, tactical, project-focused, and knowledge-focused (McDermott, 2000; Vestal, 2001; Wenger *et al*, 2002). The results of the survey pertaining to each type of community as described in chapter five are analyzed in turn below. This sub-section is then concluded with a summary of the analysis pertaining to the second research question. The results of the survey demonstrate that critical success factors do vary, albeit marginally, with the type of community of practice at Multichoice.

Strategic Community of Practice

The results of the survey show that 41% of respondents indicated membership of a community of practice defined as being strategic – the largest grouping of the four typologies in this research.

All of the potential critical success factors were identified as critical to the success of the strategic communities of practice at Multichoice, with the notable exception of two factors. The culture of the organization, line management support, the quality of the content of the community of practice, the role of the leader/facilitator, the role of the core group, and regular participation were rated by respondents as top priority critical factors to the success of their strategic communities of practice. This is evident from the low standard deviation for these factors, which indicates limited variation in the rating of

these factors. The findings of the survey thus support the arguments of Wenger *et al* (2002), Wenger (2000), Enkel *et al* (2002), Franz, Freudenthaler, Kameny & Schoen (2002), Vestal (2001), and McDermott (2000) with regard to the factors that are critical to the success of communities of practice.

Respondents are of the view that it is `important', but not `critical', for the goals of the communities of practice to be linked to the goals of the organization. Furthermore, respondents are of the opinion that the need to measure the success of their communities was `nice to do', but not `important' or `critical', to the success of their strategic communities of practice. However, there is high variance amongst respondents with regard to the latter factor.

The results of this survey thus challenge certain parts of the arguments of Wenger (2000) and Franz *et al* (2002) with regard to the link between the goals of the community of practice and the strategic goals of the organization, which was rated by respondents as 'important' but not `critical' to the success of communities at Multichoice. This finding is particularly interesting considering that members define their communities of practice as `strategic' yet have not rated this factor as `critical'.

Moreover, members of communities at Multichoice challenge the argument of Vestal (2001) that several key metrics of success are needed for communities of practice to show business results.

The results of the questionnaire survey thus reveal a close resemblance between the bulk of factors identified in the literature as critical to the success of strategic communities of practice and the views of respondents and members of strategic communities of practice at Multichoice.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Critical	Critical	Critical	Low
Line management support	Critical	Critical	Critical	Low
Supportive ICT	Critical	Important	Critical	High
Clear goals	Critical	Critical	Critical	Low
Linked to strategic goals of organization	Important	Important	Important	Acceptable
Measure success	Nice to have	Important	Important	High
Quality of content	Critical	Critical	Critical	Low
Role of leader/facilitator	Critical	Critical	Critical	Low
Role of core group	Critical	Critical	Critical	Low
Regular participation	Critical	Critical	Critical	Low

Figure 6. 2: Critical success factors for strategic communities of practice at Multichoice

Tactical Community of Practice

Thirty-one percent of respondents stated membership of a tactical community of practice at Multichoice – the second largest grouping by typology.

Most of the critical success factors for communities of practice that were identified in the literature were also rated as critical by members of communities of practice defined as tactical at Multichoice. Factors rated as critical to the success of tactical communities of practice were organizational culture, line management support, supportive ICT

infrastructure, clear goals, role of the leader/facilitator, role of the core group, and regular participation of members. Similarly to the results of the strategic communities of practice, the results of the survey with respect to critical success factors pertaining to tactical communities of practice thus generally support the views of Wenger *et al* (2002), Wenger (2000), Enkel *et al* (2002), Franz *et al* (2002), Vestal (2001), and McDermott (2000).

However, three factors were rated by respondents as `important', but not `critical', to the success of tactical communities of practice at Multichoice. These included the goals of the community being linked to the strategic goals of the organization, the need to measure the success of the community, and the quality of content of the community of practice. Accordingly, the survey results challenge certain aspects of the arguments of Vestal (2001), Franz *et al* (2002), and Wenger (2000) pertaining to the above factors.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Critical	Critical	Critical	Acceptable
Line management support	Critical	Critical	Critical	Low
Supportive ICT	Critical	Critical	Critical	Low
Clear goals	Critical	Critical	Critical	Low
Linked to strategic goals of organization	Important	Important	Important	Acceptable
Measure success	Important	Important	Important	High
Quality of content	Important	Important	Important	Low
Role of leader/facilitator	Critical	Critical	Critical	Low
Role of core group	Critical	Critical	Critical	Low
Regular participation	Critical	Critical	Critical	Low

Figure 6. 3: Critical success factors for tactical communities of practice at Multichoice

Project-based Community of Practice

Only 15% of respondents (6 respondents out of a total of 51) indicated membership of a project-based community of practice at Multichoice – the second smallest grouping of the four types. Caution was adopted in interpreting the survey results with respect to project-based communities of practice at Multichoice in view of the limited quantity of respondents in this category type.

Most of the factors identified in the literature as being critical to the success of communities of practice were also rated as critical to the success of project-based communities of practice at Multichoice by the questionnaire survey respondents. These included line management support, clear goals, quality of content, role of leader/facilitator, role of core group, and regular participation of members. The arguments of Wenger *et al* (2002), Wenger (2000), Enkel *et al* (2002), Franz *et al* (2002), Vestal (2001), and McDermott (2000) are broadly supported by the survey findings with regard to project-based communities at Multichoice.

Organizational culture, supportive ICT infrastructure, and the goals of the community being linked to the strategic goals of the organization were viewed by members of project-based communities as being `important', but not `critical', to the success of project-based communities of practice. The need to measure the success of project-based communities of practice was seen as `nice to have', and thus the least important factor to the success of project-based communities at Multichoice. Vestal's (2001) argument that

several key metrics are required for communities of practice to ensure success is again

not supported by members of project-based communities at Multichoice.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Important	Important	Important	Low
Line management support	Critical	Critical	Critical	Critical
Supportive ICT	Important	Important	Important	High
Clear goals	Critical	Critical	Critical	Acceptable
Linked to strategic goals of organization	Critical	Critical	Critical	High
Measure success	Nice to have	Important	Nice to have	High
Quality of content	Critical	Critical	Critical	Acceptable
Role of leader/facilitator	Critical	Critical	Critical	Low
Role of core group	Critical	Critical	Critical	Very low
Regular participation	Critical	Critical	Critical	Acceptable

Figure 6. 4: Critical success factors for project-based communities of practice at Multichoice

Knowledge-focused Community of Practice

In comparison to the other types of communities of practice at Multichoice, respondents

that defined their communities as knowledge-focused view fewer factors that were

identified in the literature as critical to the success of communities. However, it should be

noted that only 13% (5) of respondents classified their communities as being knowledge-

focused. Interpretation of the results of this grouping should thus be undertaken with

caution.

Four of the factors are rated as `critical' and include line management support, clear goals, role of core group, and regular participation. Similarly to the other community types, measuring the success of the community of practice is viewed as relatively unimportant by respondents of knowledge-focused communities – and thus again challenges an aspect of the argument of Vestal (2001). The balance of factors is rated as `important', but not `critical', success factors.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Important	Important	Important	Acceptable
Line management support	Critical	Critical	Critical	Low
Supportive ICT	Important	Important	Important	Acceptable
Clear goals	Critical	Critical	Critical	Low
Linked to strategic goals of organization	Important	Important	Important	High
Measure success	Nice to have	Nice to have	Nice to have	Very high
Quality of content	Important	Important	Important	Acceptable
Role of leader/facilitator	Important	Important	Important	Acceptable
Role of core group	Critical	Critical	Critical	Acceptable
Regular participation	Critical	Critical	Critical	Acceptable

Figure 6. 5: Critical success factors for knowledge-focused communities of practice at Multichoice

6.4 Summary of analysis – do the critical success factors vary with the type of community of practice at Multichoice?

The results of the survey demonstrate that critical success factors do vary with the type of community of practice at Multichoice. The survey reveals that all four main types of communities that were identified in the literature review do indeed exist at Multichoice. It is also disclosed that no one type of community of practice shares an identical set of critical success factors.

Notwithstanding the differences amongst community types with regard to their views on what constitutes critical success factors, all communities are in agreement that the following factors are critical to the success of their communities, and thus broadly support the arguments of Wenger *et al* (2002), Wenger (2000), Enkel *et al* (2002), Franz *et al* (2002), Vestal (2001), and McDermott (2000):

- Line management support for the community;

- Clear community goals;

- The role of the core group of the community; and

- Regular community member participation.

Of significance from the results is that respondents are of the view that all the factors that were identified in the literature review are at least `important' – although not all `critical' – to the success of the type of community of practice at Multichoice, with the notable exception of the need to measure the success of the community. Indeed, respondents that are members of all types of communities of practice at Multichoice are of the view that

measuring the success of their communities is not critical to the success of their communities, with most viewing this factor as `nice to have'.

Also, most communities believe that it is `important', but not `critical', for the goals of their communities of practice to be linked to the goals of Multichoice for the success of their communities. The other factors rated as `important', but not `critical', to successful communities of practice are organizational culture, a supportive ICT infrastructure, and the quality of the content of the community of practice.

6.5 Research question three – do critical success factors vary with the stage in the life cycle of communities of practice at Multichoice?

The literature review disclosed five main stages of development in the life cycle of communities of practice: early stage, forming stage, maturing stage, tapering-off stage, and dissolved stage (Wenger *et al*, 2002; De Bruijn, 2001). The results of the survey questionnaire pertaining to the third research question on the stage in the life cycle of communities of practice at Multichoice have been described in chapter five. Analysis of this data by stage in the life cycle is undertaken below in accordance with the various stages in the life cycle.

The results of the survey reveal that critical success factors do vary, albeit marginally, with the stage in the life cycle of communities of practice at Multichoice. However, the results further reveal that the difference of critical success factors amongst communities

at different stages in the life cycle is less pronounced compared with that of different types of communities of practice at Multichoice.

Early Stage

A majority (41%) of respondents to this survey indicated membership of communities of practice at Multichoice in the early stage of the life cycle. This finding is unsurprising as communities of practice were only established following the appointment in 2005 of a knowledge management specialist.

The majority of factors identified in the literature as being critical to the success of communities of practice were also rated by respondents as critical to the success of communities of practice in the early stage of the life cycle at Multichoice. These factors include culture, line management support, supportive ICT, clear goals, quality of content, role of leader/facilitator, role of core group, and regular participation of members. Evidently, there was limited divergence of opinion of respondents on most of these factors – as shown by the low to acceptable levels of standard deviation. The findings of the survey thus generally support the arguments of Wenger *et al* (2002), Wenger (2000), Enkel *et al* (2002), Franz, Freudenthaler, Kameny & Schoen (2002), Vestal (2001), and McDermott (2000) with regard to the factors that are critical to the success of communities of practice.

Two factors were viewed by respondents as `important', but not `critical', factors to the success of communities of practice in the early stage of the life cycle. These include the goals of the community being linked to the strategic goals of the organization, and the need to measure the success of the community. It should be noted that there was a relatively high degree of variance of opinion on the latter factor as evidenced by the high standard deviation.

The results of this survey thus challenge certain parts of the arguments of Wenger (2000) and Franz *et al* (2002) with regard to the link between the goals of the community of practice and the strategic goals of the organization, which was rated by respondents as 'important' but not `critical' to the success of communities at Multichoice. Moreover, members of communities at Multichoice in the early stage of the life cycle challenge the argument of Vestal (2001) that several key metrics of success are needed for communities of practice to show business results.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Critical	Critical	Critical	Acceptable
Line management support	Critical	Critical	Critical	Low
Supportive ICT	Critical	Important	Critical	Acceptable
Clear goals	Critical	Critical	Critical	Low
Linked to strategic goals of organization	Important	Important	Important	Acceptable
Measure success	Important	Important	Important	High
Quality of content	Critical	Critical	Critical	Acceptable
Role of leader/facilitator	Critical	Critical	Critical	Low
Role of core group	Critical	Critical	Critical	Low
Regular participation	Critical	Critical	Critical	Low

Figure 6. 6: Critical success factors for early stage communities of practice at Multichoice

Forming Stage

A majority (41%) of respondents to this research survey indicated membership of communities of practice in the forming stage of the life cycle. Again, this is not surprising in view of the relatively recent formation in 2005 of communities of practice at Multichoice following the appointment of a knowledge management specialist.

A majority of factors identified in the literature as being critical to the success of communities of practice are identified by respondents in the forming stage as being `critical'. Accordingly, the broad arguments of Wenger *et al* (2002), Wenger (2000), Enkel *et al* (2002), Franz *et al* (2002), Vestal (2001), and McDermott (2000) are supported by the findings of this research with respect to members in the formative stage of communities of practice at Multichoice.

Two factors are rated as not being `critical' to success: the goals of the community being linked to the goals of the organization is rated as being `important'; and the need to measure success of the community is viewed as `nice to have' but neither `important' nor `critical' to the success of communities in the formative stage of the life cycle. Certain aspects of the arguments of Wenger (2000), Franz *et* al (2002), and Vestal (2001) are thus challenged by the survey results for communities in the formative stage of the life cycle.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Critical	Critical	Critical	Acceptable
Line management support	Critical	Critical	Critical	Acceptable
Supportive ICT	Critical	Important	Critical	Acceptable
Clear goals	Critical	Critical	Critical	Low
Linked to strategic goals of organization	Important	Important	Important	Acceptable
Measure success	Nice to have	Important	Important	High
Quality of content	Critical	Critical	Critical	Acceptable
Role of leader/facilitator	Critical	Critical	Critical	Low
Role of core group	Critical	Critical	Critical	Low
Regular participation	Critical	Critical	Critical	Low

Figure 6. 7: Critical success factors for forming stage communities of practice at Multichoice

Maturing Stage

A limited proportion of respondents (13% or 5 respondents) indicated membership of communities of practice at Multichoice in the maturing stage of the life cycle. Caution should thus be exercised when interpreting the results.

Many of the factors identified in the literature review as being critical to communities of practice are identified by respondents as being critical to communities in the maturing stage of the life cycle. In particular, the role of the core group of the community was unanimously rated as a critical success factor by all respondents that defined their community as being in the mature stage.

Similar to respondents in the early and formative stages, respondents in the mature stage were of the view that the need to measure the success of their community was the least important factor to its success (rated as `nice to have'). In addition, the goals of the community being linked to the strategic goals of the organization were viewed as important but not critical factors – as were organizational culture and the quality of the content. Certain aspects of the arguments of Wenger (2000), Franz *et* al (2002), and Vestal (2001) are thus again challenged by the survey results for communities in the maturing stage of the life cycle.

Potential critical success factor	Mode	Mean	Median	Standard deviation
Culture	Important	Important	Important	Low
Line management support	Critical	Critical	Critical	Acceptable
Supportive ICT	Critical	Critical	Critical	Acceptable
Clear goals	Critical	Critical	Critical	Low
Linked to strategic goals of organization	Important	Important	Important	Acceptable
Measure success	Nice to have	Important	Nice to have	High
Quality of content	Important	Important	Important	Acceptable
Role of leader/facilitator	Critical	Critical	Critical	Low
Role of core group	Critical	Critical	Critical	Very low
Regular participation	Critical	Critical	Critical	Low

Figure 6. 8: Critical success factors for maturing stage communities of practice at Multichoice

Tapering-off Stage

No respondents defined their community of practice as being located within the tapering-off stage of the life cycle.

Dissolved Stage

Only two respondents (5%) classified their community as being in the dissolved stage of the life cycle, and thus does not allow for meaningful analysis (refer to table 5.12 in chapter five).

6.6 Summary of analysis - do critical success factors vary with the stage in the life cycle of communities of practice at Multichoice?

The results of the survey reveal that critical success factors do vary, albeit marginally, with the stage in the life cycle of communities of practice at Multichoice. However, there is less variance of critical success factors amongst communities at different stages in the life cycle compared with the different types of communities of practice at Multichoice.

Evidently, the rating of critical success factors in the early and forming stages of the life cycle are almost identical. Eighty-two percent of respondents are located within the early and forming stages – making this finding of significance. Members of communities in the early and forming stages rate all the factors identified in the literature review as critical to the success of their communities of practice, with the exception of the goals of their communities being linked to the strategic goals of Multichoice, and the need to measure the success of their communities of practice.

Similarly to the results of the factors pertaining to the types of communities, it is of significance that all of the critical success factors identified in the literature review are rated by respondents as at least `important' – although not `critical' – to the success of their communities, again, with the notable exception of the need to measure the success of the community.

6.7 Summary of analysis – chapter six

This chapter sought to discuss and analyze the survey results that were described in the previous chapter. The analysis was undertaken according to each of the three research questions of this research project.

Currently, there are five communities of practice at Multichoice with a total of 51 members. Based on a response rate of 76% (responses from 39 members out of the total of 51), it is evident from this research that almost three-quarters of members characterize their communities of practice as being strategic (41%) or tactical (31%). Furthermore, an overwhelming majority of members say that their communities are located in the early (41%) and formative (41%) stages of the life cycle. Moreover, this research has revealed that most communities of practice at Multichoice are characterized as being strategic communities in the early (23%) and formative stage (18%), followed by tactical communities in the formative (15%) and the early stage (10%).

The analysis of the results of this research project discloses a close resemblance between the critical success factors identified in the literature review and the responses of members of communities of practice at Multichoice. Whilst such a finding may at first appear self-evident, it is worth noting that this was not the case in a similar research project that was undertaken on communities of practice at the Anglo American Corporation (Sandrock, 2006). Sandrock (2006) found that of a total of fourteen potential critical success factors identified in the literature, only two such factors were rated by members of communities as `critical' at the Anglo American Corporation: quality

content, and user-friendly technology. This research project has found quite the opposite: of a total of ten potential critical success factors for communities of practice at Multichoice, eight of the factors were rated by respondents as `critical' to the success of communities of practice.

This research reveals that the critical success factors to communities of practice at Multichoice (research question one) include an organizational culture that is conducive to supporting communities of practice; supportive line management; a supportive ICT infrastructure; clear goals for communities; quality of content; the role of the leader/facilitator; the role of the core group of the community; and regular participation of members.

Evidently, critical success factors for communities of practice at Multichoice vary, albeit marginally, with the type of community of practice (research question two). The critical success factors for strategic communities of practice were similar, albeit marginally different, to those for tactical communities. Members of strategic communities rated all the factors listed as 'critical' with the exception of two factors (linked to strategic goals of Multichoice, and the need to measure the success of the community of practice). Members of tactical communities rated all factors as 'critical' with the exception of the aforementioned two factors and the quality of content – all of which were viewed as 'important'.

The following factors are rated by respondents of all four types of communities as 'critical': line management support for the community; clear community goals; role of the core group of the community; and regular community member participation. Furthermore, respondents rated all of the factors identified as at least 'important' (albeit not 'critical') to the success of the type of community of practice at Multichoice, with the notable exception of the need to measure the success of the community, which is rated as 'nice to have'. In addition, most community types are of the view that it is 'important' but not 'critical' for the goals of their communities of practice to be linked to the strategic goals of Multichoice for the success of their communities. Other factors rated as 'important', but not 'critical' include organizational culture, a supportive ICT infrastructure, and the quality of the content of the community of practice.

The results of this research reveal that critical success factors vary, albeit marginally, with the stage in the life cycle of communities of practice at Multichoice (research question three). However, the critical success factors for communities in the early stage are different, but similar, to those for communities in the formative stage. All of the factors were rated as 'critical' to the success of early stage communities at Multichoice, with the exception of the goals of the community being linked to the strategic goals of the organization, and the need to measure the success of the community (both rated as 'important'). Similarly, all of the factors were viewed as 'critical' to the success of communities in the formative stage, except the two aforementioned factors. However, members of communities in the formative stage rate the need to measure the success of communities as `nice to have'.

Similar to respondents in the early and formative stages, respondents in the mature stage rated the need to measure the success of their community as 'nice to have'. In addition, the goals of the community being linked to the strategic goals of Multichoice were rated as 'important' but not 'critical' factors – together with an enabling organizational culture and the quality of the content of the community of practice.

Significantly, no respondents defined their communities as being in the tapering-off stage, and only two respondents located their community in the dissolved stage.

The focus of the following chapter shifts towards discussing the implications of the analysis and findings of this survey for Multichoice, as well as sketching a set of recommendations for future research.

7. Chapter Seven: Conclusion

The aim of this concluding chapter is to highlight the main findings of this research project, followed by sketching a set of recommendations for Multichoice based on the research findings and underpinned by the academic literature. The chapter is concluded by outlining certain recommendations pertaining to future research into communities of practice.

7.1 Main findings

An analysis of the results of this research survey reveals a strong resemblance between the critical success factors identified in the literature review and those rated by members of communities of practice at Multichoice. Furthermore, the analysis of the results demonstrates that critical success factors vary – albeit marginally - with both the type, and stage in the life cycle, of communities of practice at Multichoice.

All the factors identified in the literature review, with the notable exception of two factors, have been rated as `critical' to the success of communities of practice at Multichoice. These include organizational culture; line management support; supportive ICT; clear goals; quality of content; role of leader/facilitator; role of core group; and regular member participation.

When disaggregating the results data by *type of community of practice*, the following factors are rated as `critical' to the success of communities of practice at Multichoice: line management support for the community; clear community goals; the role of the core group of the community; and regular community member participation.

A disaggregation of results data by *stage in the life cycle of the community of practice* reveals the following factors as `critical', according to the survey respondents: line management support; supportive ICT; clear goals; role of leader/facilitator; role of core group; and regular member participation. Moreover, it is significant that all factors identified in the literature as critical to the success of communities of practice were rated as at least `important' by respondents at Multichoice, with the notable exception of the need to measure the success of the community.

7.2 Recommendations to Multichoice

The objective of this sub-section is to sketch a set of recommendations flowing from the results of this research project, and which are grounded in the academic literature, pertaining to the key factors on which Multichoice management needs to concentrate in order to derive maximum advantage from its communities of practice. This, in turn, will allow for the improvement of tacit knowledge management in the organization.

At a high-level of analysis, this research has established the following:

1. First, members of communities of practice at Multichoice rate several factors as being critical to the success of their communities of practice.

2. Second, different factors are regarded as critical to the success of different types of communities of practice at Multichoice. However, these differences are only marginal.

3. Third, different factors are regarded as critical to the success of communities of practice in different life cycle stages. Again, however, these differences are marginal.

It must be noted that the aim of this research was not to examine the existence or prevalence of each of the factors regarded as critical to the success of communities of practice at Multichoice. The results of this research are confined to outlining the factors rated as critical to the success of communities of practice at Multichoice. A further note of caution: Bullen & Rockart (1981) argue that critical success factors are specific to an industry, the competitive strategy and industry position, environmental factors, temporal factors, and managerial position. As each of the aforementioned variables change, the critical success factors may also change, and should thus not be viewed as static.

Franz, Freudenthaler, Kameny & Schoen (2002) and McDermott (2000) argue that an organizational culture that fosters collaboration is critical to the success of communities of practice. Further, Enkel *et al* (2002) argue that trust, care and identity play an important role in sharing knowledge and skills within communities. The results of this research demonstrate that respondents in the dominant types (strategic and tactical) and

life cycle stages (early and forming) of communities of practice are of the view that a supportive organizational culture and values are critical to successful communities at Multichoice. The values of Multichoice are already closely aligned to nurturing an organizational culture that is supportive of communities of practice. However, shaping and influencing an organizational culture can take many years to achieve. It is recommended that Multichoice focus on building an organizational culture that favours the sharing of knowledge.

Closely linked to organizational culture in supporting communities of practice is the role of line management in supporting and legitimizing member participation in communities of practice. Wenger (2000) is of the view that organizational systems such as compensation and recognition need to be aligned to supporting work involved in building communities of practice. Furthermore, Franz *et al* (2002) argue that communities function better if supported by management. Respondents to this research rated line management support as critical to the success of communities of practice at Multichoice. Accordingly, it is recommended that management ensure that organizational systems, such as compensation and remuneration, as well as resource allocation, are aligned in support of member participation in communities of practice so as not to inadvertently discourage members from participation in communities. Indeed, organizational systems are key tools in the shaping of an organizational culture that encourages and supports communities of practice. It is recommended that the alignment of organizational systems in support of communities of practice be undertaken in the short term.

Extending the theme of a supportive culture and organizational systems for successful communities, Wenger *et al* (2002) argue that good community design invites many different levels of participation, including that of the core group of the community of practice. Wenger *et al* (2002) further argue that vibrant communities of practice create a rhythm, including regular meetings and participation of members. McDermott (2000) adds that members of communities of practice must be encouraged to participate for successful communities. Indeed, the results of this research have established that respondents are of the view that the role of the core group of the community of practice and regular participation of members are critical to successful communities of practice at Multichoice. Accordingly, it is recommended that Multichoice recognize, and introduce measures such as compensation, incentive and remuneration structures, to cultivate a supportive organizational culture and systems that encourage regular member participation and recognize the crucial role of the core group to the success of communities of practice. This recommendation should be implemented in the short term.

Franz *et al* (2002), Vestal (2001) and McDermott (2000) highlight the role of a sound information and communication infrastructure as a platform to support the functioning of communities of practice. Respondents to this research from the dominant types (strategic and tactical) and life cycle stages (early and formative) concur with Franz *et al* (2002) and McDermott (2000), and rated a supportive information and communication infrastructure as critical to the success of communities of practice at Multichoice. It is thus recommended that Multichoice management ensure that the ICT infrastructure

remain responsive to, and supportive of, community of practice member participation and communication. This recommendation should be implemented in the short term.

The results of the research demonstrate that members of communities of practice at Multichoice are of the opinion that clear goals and objectives for communities of practice are critical to the success of communities. This view pertained to respondents of strategic and tactical communities, as well as communities in the early and formative stages of the life cycle. Franz *et al* (2002) argue that the subject of communities of practice should be focused and clearly structured to be successful. The results of the research thus coincide with the argument of Franz *et al* (2002). It is thus recommended that facilitators and leaders of communities of practice at Multichoice appreciate the importance of clear goals and objectives for the success of their communities.

Further on the role of facilitators and leaders, the literature highlights the centrality of community of practice facilitators and leaders to the success of communities. Franz *et al* (2002) argue that a committed, recognized and well-organized facilitator is critical to the success of communities of practice. Vestal (2001) acknowledges the critical role of a dedicated and skilled leader as central to successful communities. Likewise, McDermott (2000) argues that communities of practice are likely to fail unless a well-respected community member co-ordinates the community. In support of the literature, the results of this research illustrate the centrality of facilitators and leaders to successful communities of practice at Multichoice. The recommendation to Multichoice is clear in

this regard: the success of communities of practice is critically dependent on facilitators and leaders who are respected and supported by members of communities.

The focus now turns to examining those factors where respondents of this research were not in agreement with the academic literature. Franz *et al* (2002) argue that the core objectives and subject of communities of practice need to be aligned to the goals of the business, and that this is beneficial to both the organization and members of communities. Similarly, Wenger (2000) argues that community of practice development needs to be placed in the context of broader knowledge management strategy, which is further linked to the business strategy. This will assist communities of practice to articulate their strategic value.

However, the results of this research show that respondents of the dominant types (strategic and tactical) and life cycle stages (early and formative) are of the opinion that it is `important' but not `critical' that the goals of the community of practice be linked to the strategic goals of the organization. It is recommended that management at Multichoice attempt to educate and reinforce the centrality of the linkage between communities of practice and strategic organizational goals. Failure to do so may run the risk of communities of practice becoming disconnected from the strategic goals of the organization, and becoming irrelevant to the objectives of Multichoice. This recommendation should be implemented in the medium term.

Vestal (2001) is of the view that effective communities of practice need several key metrics of success to show business results. However, respondents to this research were not in agreement with Vestal (2001) on this point, with most respondents rating this factor as `nice to have' and thus of limited value to the success of communities of practice. It is recommended that management not attempt to introduce metrics of success to show business results – at least not whilst most communities of practice are within the early and formative stages of the life cycle. The maturation of communities in the medium to long term may offer an opportunity for management to review this approach as increased pressure may arise to demonstrate the value being added by communities of practice to the organizational performance and success of Multichoice.

Importantly, these recommendations need to be read and understood within the limitations of this research. First, this research was taken at a single point in time, rather than over a period of time. As the results of the research suggest, factors identified as critical to the success of communities of practice are likely to vary as communities evolve in the life cycle, and as different types of communities are established. The results and recommendations of this survey should not thus be generalized beyond the time period of this research. Second, this research employed a quantitative method using a non-probability sample. This restricts the ability to generalize the results and recommendations of this research beyond the organizational and time context of the research. Third, this research did not attempt to gain a deeper understanding of the underlying dynamics driving the functioning of communities of practice at Multichoice.

7.3 Future research

Linked to the limitations of this research outlined above, future research into communities of practice and knowledge management might include the following:

- Qualitative case study research to examine the underlying factors and dynamics that drive and support communities of practice in the South African organizational context. (Most research into communities of practice in the SA context is quantitative in orientation.)

- Quantitative research that aims to trace and assess the changing critical success factors for communities of practice by type and life cycle stage at particular organizations over time (longitudinal studies) – using probability sampling methods to allow for extrapolation of results.

- Research into communities of practice that operate at different geographical scales – from global to local. Research into critical success factors for communities of practice that stretch across organizational boundaries and nation-states, and are global in character, compared with communities that operate within a single geography.

- Research examining whether the size, or number of members, of communities of practice has a significant impact on the critical success factors of the communities.

This concluding chapter provided a high-level summary of the findings of the research into critical success factors for communities of practice at Multichoice. Evidently, critical

success factors for communities of practice do exist at Multichoice. Furthermore, the critical success factors vary, albeit marginally, by both type of community, and stage in the life cycle of the community of practice at Multichoice. The second aim of this chapter was to interpret the results of this research for senior management at Multichoice. This was undertaken by way of sketching a set of recommendations, which were underpinned by the academic literature. Finally, ideas for future research were supplied on communities of practice as a means of implementing knowledge management for competitive advantage.

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ANNEXURE 1: A PROFILE OF MULTICHOICE[1]

Multichoice was established in South Africa in 1986 when M-Net was founded as one of the first of two subscription television services outside of the United States of America, and Multichoice was incorporated to provide subscriber management services for pay television bouquets. Multichoice is owned by parent company Naspers and holding company MIH.

Multichoice's core business involves the acquisition of channels from local, African and international channel suppliers, which are grouped into genres. Channels are then packaged into entertainment bouquets branded as DStv, which are offered to the public. In 2008 Multichoice employed 766 people, and had 1,5 million digital subscribers and 174 500 analogue subscribers.

The mission of Multichoice is to enrich and brighten people's lives with compelling digital media content through pay television, the Internet, mobile telephones and other digital devices. Multichoice aims to own and manage various interactive platforms that bring digital media entertainment, content and services to multiple devices, for which users pay a monthly subscription fee. Multichoice aims to be number one in all chosen market segments, as the most trusted, best value provider of the most compelling digital media content; the most innovative delivery; the best customer care; and nurturing the best talent.

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[1] This profile of Multichoice is based information on Multichoice's web site: www.multichoice.co.za (site accessed on 27 October 2008)

Multichoice says that it is constantly searching and developing new ways of bringing information and entertaining content to its customers, and acknowledges that information has become the key advantage. Indeed, its company values include innovation, customer focus, performance driven, participation, mutual respect, and development. It is thus not surprising that a decision was taken in 2005 to employ a knowledge management specialist who was tasked with fostering an organisational culture of knowledge sharing, innovation and entrepreneurship through the establishment of communities of practice.

ANNEXURE 2: QUESTIONNAIRE

Thank you for participating in this survey, which should take no more than four minutes of your time. The aim of this survey is to examine critical success factors pertaining to your community of practice.

Your participation in this survey is voluntary and you may withdraw at any time without penalty. All data from this survey will be kept confidential. By completing the questionnaire, you indicate that you voluntarily participate in this research. If you have any concerns you may contact the researcher, Stuart Murphy, at 082 327 0545 or my supervisor, Dr Peter Tobin, at 011-771-4138.

Please indicate your view for each of the questions below by clicking on the relevant radio button.

1. Our community of practice is best described as being:
   - Linked to a strategic objective
   - Focused on tactical processes, process optimization, & sharing of best practice
   - Focused on a particular project
   - Focused on growing a particular body of knowledge

2. The stage of development of our community of practice is best described by:
   - Early stage – defining scope of what we do; identifying interested members; identifying common knowledge needs
   - Forming stage – established the value of sharing knowledge; there's sufficient trust amongst members; defining what knowledge should be shared and how to do this
   - Maturing stage – define the role of our community in the organisation in relation to other communities; manage the growth of the community so as not to lose focus; moved beyond simply sharing ideas to organising our community's knowledge
   - Tapering-off stage – ensure that the focus is lively and entertaining; ensure the community retains a voice in the organisation; keep community at cutting edge
   - Dissolved stage – community dissolved due to loss of interest and/or membership

3. A supportive organisational culture & values are:
    - Critical
    - Important
    - Nice to have
    - Not necessary

4. Supportive line management is:
    - Critical
    - Important
    - Nice to have
    - Not necessary

5. Supportive information & communication infrastructure is:
    - Critical
    - Important
    - Nice to have
    - Not necessary

6. Clear goals and objectives for the community of practice are :
    - Critical
    - Important
    - Nice to have
    - Not necessary

7. The goals of our community of practice should be linked to the strategic goals of the organisation:
    - Critical
    - Important
    - Nice to have
    - Not necessary

8. Measuring the success of our community of practice is:
    - Critical
    - Important
    - Nice to have
    - Not necessary

9. The quality of the content of our community of practice is:
- Critical
- Important
- Nice to have
- Not necessary

10. The role of the leader/facilitator of our community of practice is:
- Critical
- Important
- Nice to have
- Not necessary

11. The role of the core group of our community of practice is:
- Critical
- Important
- Nice to have
- Not necessary

12. Regular participation of members is:
- Critical
- Important
- Nice to have
- Not necessary

13. Are there other factors that you consider critical to the success of your community of practice that are not mentioned above? Please mention in the space provided below.