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CRITICAL SUCCESS FACTORS FOR COMMUNITIES OF PRACTICE IN THE CONTEXT OF THE ANGLO AMERICAN CORPORATION

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfillment of the requirements for the degree of Master of Business Administration.

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Abstract

The research project investigated critical success factors for communities of practice in the Anglo American Corporation.

It was found that critical success factors for communities of practice can be identified in the context of the Anglo American Corporation. In addition, it was found that the critical success factors vary with the type and life cycle stage of the community.

The research project comprised a qualitative literature review component which led to the design of a quantitative survey component.

The survey was conducted in the Anglo American Corporation, with the respondents being members of communities of practice within the organisation. The respondent data set was analysed to produce results for discussion.

The concluding chapter of the report outlines the critical success factors identified, and the recommendations made for establishing the support infrastructure for these factors.

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Declaration

I declare that this research project is my own work. It is submitted in partial fulfillment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University.

Judith Norah Sandrock

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1 Chapter One

This chapter will introduce the research problem and give the motivation for the research. The concept of communities of practice will be explained to set the context for the research, as well as the necessity for critical success factors for communities of practice. In addition, Anglo American Corporation, the organisation in which the research was conducted, will be introduced, and the relevance of the research to South Africa noted. The chapter will conclude by defining the research problem.

1.1 Introduction to the Research Problem

Communities of practice are groups of people who share knowledge on a common topic, as fully described in section 2.2. These communities are recognised as a key component of knowledge management (Wenger, McDermott and Snyder, 2002), as expanded on in section 1.2.

Communities of practice are often recommended as a means of sharing knowledge in organisations (Snyman and Van Den Berg, 2003). Knowledge sharing and knowledge management are covered in full in chapter 2.

For organisations which intend to elicit the maximum benefit from launching and sustaining communities of practice, it is important to understand the critical success factors required to do so.

The factors contributi ıities of practice vary, and need to be identified. The reason for choosing the critical success factors for these communities was the speed with which a business value can be realised due to the high success rate and relatively low impact cost of implementing the communities (Snyman and Van den Berg, 2003).

1.2 Communities of Practice

When describing communities of practice, Davenport and Prusak (1998:38) state that “sometimes co-workers who have complimentary knowledge will form a group”, and these groups are generally initiated by employees because they share common work practices, interests, or aims. For the purposes of outlining the motivation for the research this definition will suffice, and the comparison of communities of practice and other types of teams is described in full in section 2.2.

1.2.1 Critical success factors for communities of practice

Not all communities of practice are identical or equally successful, and critical success factors have been researched by the American Productivity and Quality Centre (APQC 2001) and a large collection of potential success factors has been proposed in the literature, as reviewed in section 2.4. Wenger *et al.* (2002) refer to different types of community of practice as well as stages of development for these communities which are frequently referred to in subsequent literature (Rumizen 2002, Saint-Onge and Wallace 2003).

Research on virtual communities of practice undertaken by Dube, Bourhis, and Jacob (2005) has relevance as knowledge workers are becoming reliant on virtual

communication tools  lobal domains. Dube *et al.* note that the critical success factors for communities of practice may have changed with the increasing prominence of virtual communication and collaboration tools.

1.2.2 Context of the research

On reviewing the literature (Chapter 2) it was found that the critical success factors for communities of practice for one organisation may not necessarily be the same for other organisations (APQC 2001). Therefore this research has been conducted in one organisation to maximise the possibility of reaching a conclusive outcome.

The company selected is the Anglo American Corporation, a global resources group with over three hundred communities of practice in various stages of development.

The research was conducted within the Anglo American Corporation to determine the critical success factors for communities of practice within the context of this organisation. A full description of the organisation can be found in Appendix 2. The Anglo American Corporation has its origin and roots in South Africa and their communities of practice have originated from South Africa, as the knowledge management initiative started in this country before expanding globally. Therefore access to the organisation was easy from a base in South Africa.

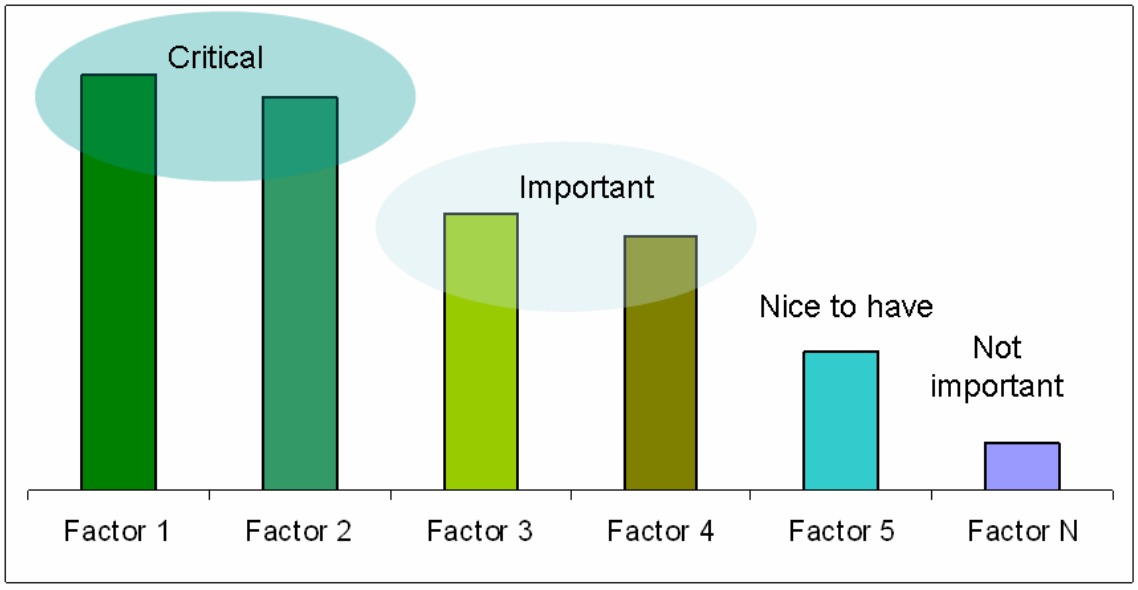
1.3 The Researcl

The research problem has been broken down into the following questions:

- What are the critical success factors for communities of practice in the Anglo American Corporation?
- Do the critical success factors vary with the type of community of practice?
- Do the critical success factors vary with the stage in the life cycle of the community of practice?

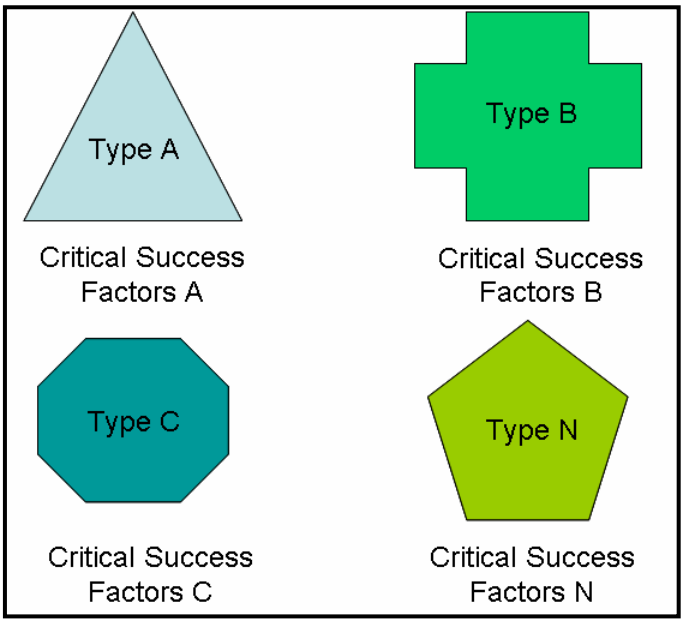
A pictorial representation of the study is shown in the figures below:

Figure 1 – The identification of critical success factors:



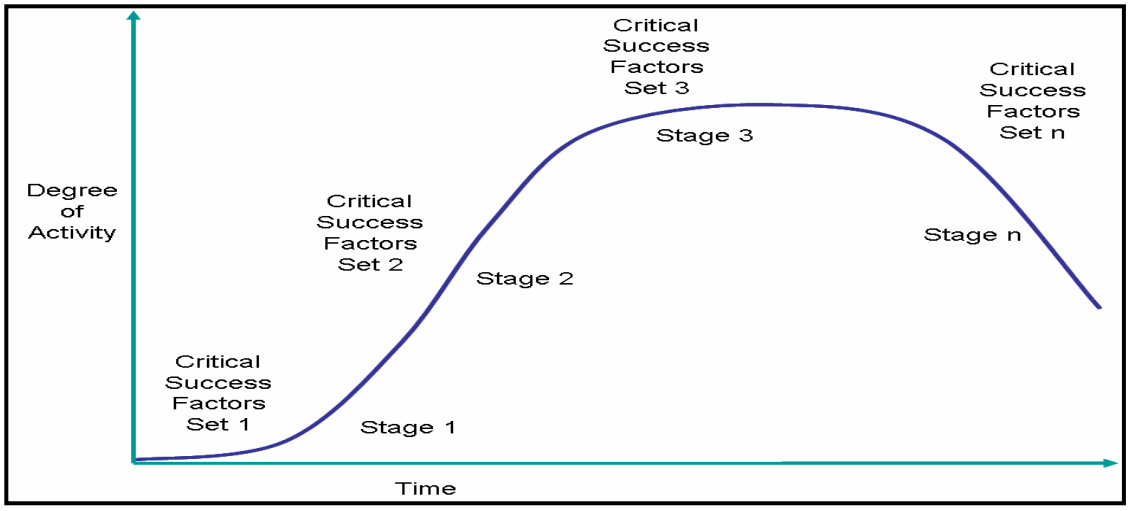
The figure above shows that the importance of the potential success factors will be determined in order to identify which ones are critical success factors.

Figure 2 – Critical success factors for various types of community of practice:



The figure above represents different types of community of practice with the relevant critical success factors.

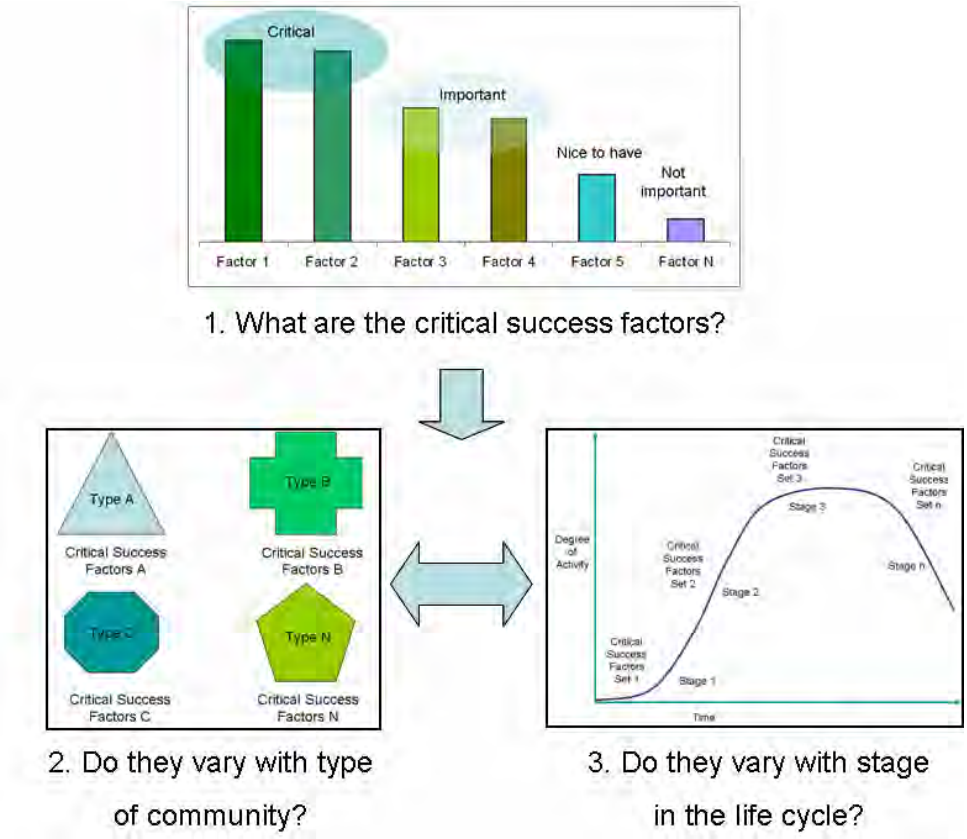
Figure 3 – A representation of the stages in the life cycle and the respective critical success factors



As can be seen in the figure above, the research will investigate the critical success factors for communities of practice at each stage of the life cycle.

The three questions are therefore represented by the figure below.

Figure 4 – Flow of the research project:



Dube *et al*. (2005) conclude that the focus of their research is limited to the community of practice launching phase, and suggest that "further research should investigate critical success factors for different stages of development in the community of practice life cycle". Therefore this research project will investigate the

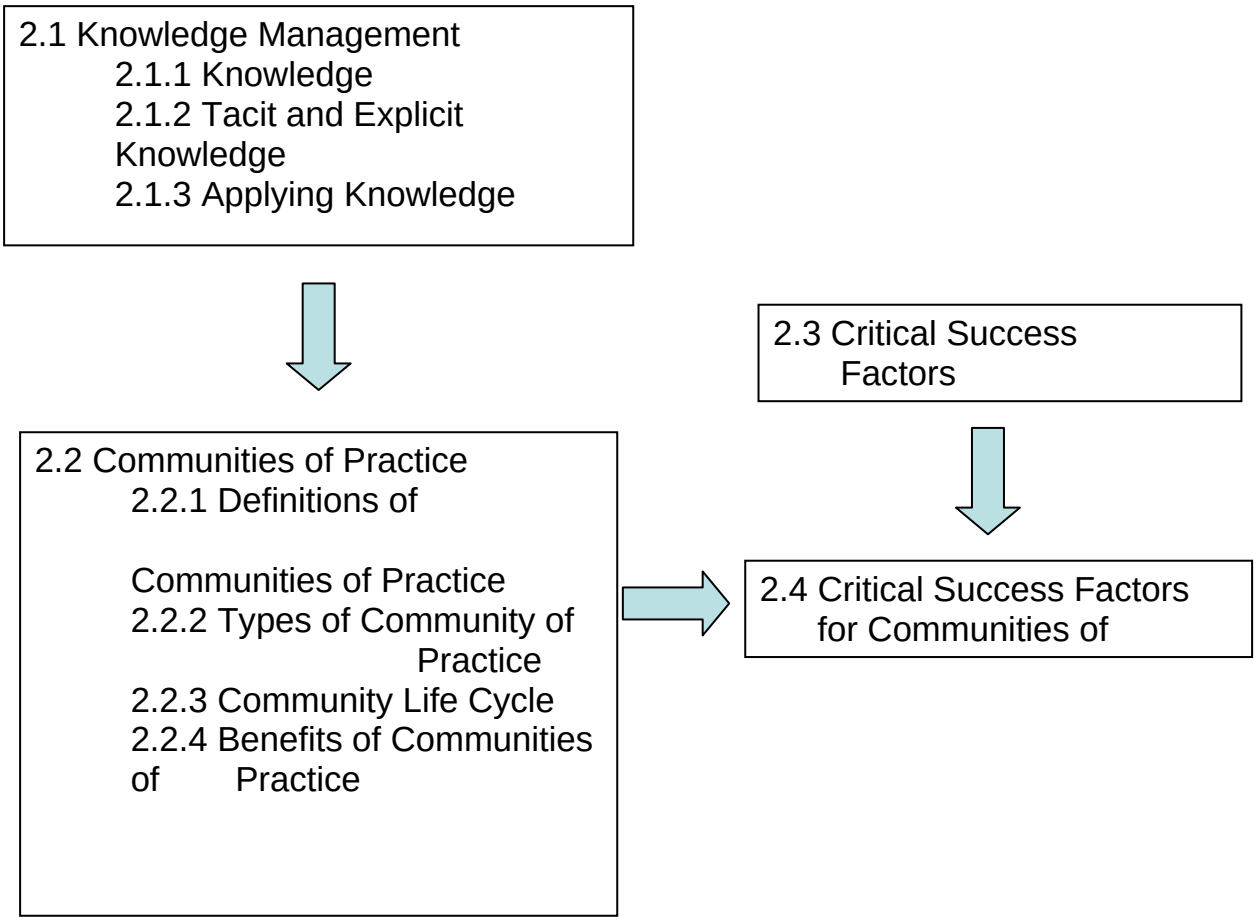
critical success facto  munity of practice, at the various stages in the life cycle.

The intention of the research is to create an understanding of the critical success factors required for communities of practice in the Anglo American Corporation, in order that they can be supported to create the value they have the potential to produce.

2 Chapter Two

This chapter captures the literature review undertaken as part of the research project. The figure below outlines the flow of the literature review to create context for the chapter.

Figure 5 – Layout of the Literature Review



The chapter will conclude with the topic of research: the critical success factors for communities of practice.

2.1 Knowledge M

This section will cover the various definitions of knowledge management which are applicable to this research project. In addition, the term “knowledge” will be defined, and the difference between tacit and explicit forms on knowledge outlined. The application of knowledge will conclude the section, providing context for the remainder of the literature review.

Knowledge management as a business concept was made popular through the contributions of Nonaka and Takeuchi (1995) in their analysis of Japanese companies, with their ability to create knowledge-based organisations, and the creation of the dynamics necessary for innovation. Their example of the knowledge creation process from previously separate knowledge used to design a bread-making machine at Matsushita has become the classic example of describing the knowledge management process.

Drucker (1988:11) stresses that “to remain competitive – maybe even to survive – businesses will have to convert themselves into organisations of knowledgeable specialists”. Drucker was the first management writer to define the requirements for managing knowledge, and is seen as the forerunner of the concepts required for developing the field of knowledge management.

Davenport and Prusak (1998) started to popularise the term “Knowledge Management” as the only means of developing competitive advantage in the knowledge era.

Rumizen (2002: 9) defines knowledge management for us: “Knowledge Management focuses on how an organisation identifies, creates, captures, acquires, shares and leverages knowledge. Systematic processes support these activities, also enabling replication of successes.”

Later, Drucker expanded this view in his work on management challenges for the future when he stated that “the most important contribution management needs to make in the twenty-first century is . . . to increase the productivity of knowledge work and the knowledge worker” (2003:135). His view was that the management skills required for success will need to be suitable for managing knowledge, not only for the tangible assets of the industrial era.

Knowledge management is becoming increasingly popular in the South African business context as recognition of the knowledge era takes hold.

2.1.1 Knowledge

The word “knowledge” is becoming the word of use in business jargon with the advent of the knowledge era: the knowledge worker, knowledge work and the knowledge-based economy (Drucker 2001; Harris 2001; Pursuad 2001; Cortada 2002; Snowden 2004).

In defining “knowledge” we have to separate it from “data” and “information”. Nonaka and Takeuchi point out that although the terms “information” and

"knowledge" are often a clear distinction between information and knowledge" (1995:58). They feel that information provides a new point of view for interpreting events or objects, and is a necessary medium or material for eliciting and constructing knowledge. Their view is that knowledge is "essentially related to human action" (ibid.:59).

Sveiby says "I believe knowledge has four characteristics. It is tacit, action-oriented, is supported by rules or filters, and it is constantly changing" (1997:34). He elaborates further to say that for his purposes, he defines knowledge as "the capacity to act" (ibid.:37).

When distinguishing "knowledge" from "data" and "information" Davenport and Prusak (1998:5) explain their view of knowledge as "a fluid mix of framed experience, values, contextual information, and expert insight" to provide a framework for evaluating and incorporating new experiences and information. This is supported by Rumizen (2002:288) who states that knowledge is "information in context to produce an actionable understanding".

"Knowledge", therefore, can be differentiated from "data" and "information" through the recognition that it has components of experience, skill, context and timing. Snowden (2004) demonstrates this when he emphasises that "we only know what we know when we need to know it", whereas information and data are static and explicit.

2.1.2 Tacit and ex

An understanding of "knowledge" needs to include the extent to which the knowledge can be separated from the individual, and made "explicit". Polanyi's distinction between tacit and explicit knowledge is that the former is often subconscious and internalised, and the individual may or may not be aware of what he or she knows and how he or she accomplishes particular results. At the opposite end of the spectrum is conscious or explicit knowledge - knowledge that the individual holds explicitly and consciously in mental focus, and may communicate to others. In the popular form of the distinction, tacit knowledge is what is in our heads, and explicit knowledge is what we have codified (1967). "Knowledge also embraces ideals, values, and emotion as well as images and symbols" (Nonaka and Takeuchi 1995:9).

Rumizen (2002: 287) describes explicit knowledge as knowledge "we know that we can write down, share with others, and add to a database". Mapping processes, writing instructions, formulating procedures and training materials also fall under the umbrella of making knowledge explicit (Pursad,2001; Cortada 2002, Rumizen 2002, Snowden 2004).

The knowledge that we cannot make explicit is termed "tacit" knowledge, "what we do not know that we know" (Rumizen 2002:291). Tacit knowledge is difficult to identify and quantify (Snowden 2004), and can often only be shared through demonstration when a problem is identified. Buckman (2004) estimates that 80 per cent of the knowledge in an organisation is tacit.

2.1.3 Applying kn

Snyman and Van den Berg (2003:1) state that "knowledge has only recently joined the ranks in being seen as a driver of economic growth". Newman (2004) poses a challenge when he states that having knowledge does not means we will act on it; he gives the example of how knowing the dangers of tobacco smoking does not result in a behaviour change by the many people who continue smoking. To support Sveiby's requirement that knowledge is "the capacity to act" (1997), not acting upon the knowledge possessed is as bad as not having it at all.

The area of knowledge management has been described within the context of the understanding of the concept of "knowledge" itself. Tacit and explicit forms of knowledge were differentiated and means of applying knowledge discussed. The following section identifies "communities of practice" as a means of applying tacit and explicit knowledge.

2.2 Communities of Practice

"Unlike physical resources, knowledge grows when it is shared" (Sveiby 1997:28). Lave and Wenger first introduced the term "communities of practice" in 1991, in their work on situated learning and legitimate peripheral participation.

When describing communities of practice, Davenport and Prusak (1998:38) state that "sometimes co-workers who have complementary knowledge will form a group", and these groups are generally initiated by employees because they share common work practices, interests, or aims. The definitions and characteristics of

communities of practi  various types which exist and the life cycle stages they move through.

2.2.1 Definitions of communities of practice

The term 'communities of practice' is defined by Wenger *et al.* (2002:4) 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 the area by interacting on an ongoing basis". It is from the work of these authors that the term community of practice became a common term in the field of knowledge management.

APQC (2001:6) states that "people have always created communities, inside and outside of organisations". What is new is the emerging prominence and formality of communities of practice as boundary-spanning units in organisations, responsible for finding and sharing best practices, stewarding knowledge, and helping members work better. This new role for communities is emerging because they nurture and harness the raw material of this millennium - knowledge.

Consistently, three dimensions of communities of practice are referred to (Rumizen 2002, Wenger *et al.*2002, Saint-Onge and Wallace 2003). The shared view is that a community of practice is a group of practitioners who share a common interest in a specific area of competence and are willing to work together (Rumizen 2002:88).

- The domain – the domain of knowledge for the community, what the members care about, their area of interest.
- The members – thought-leaders, practitioners, their relationships and the trust that exists between them.
- The practice – what the community does. Sharing of best practices, creating tools, mapping processes and other knowledge work.

Significant benefits have been derived by organisations from communities of practice.

2.2.2 Types of community of practice

As communities of practice are studied, it is being recognised that they are of different types. This section will outline the various types of community described in the literature, and will propose the ones that will be used for the purposes of the research.

McDermott (2000) indicates four types of community:

- Communities which are linked to a strategic objective
- Communities which focus on tactical processes, process optimisation and sharing of best practice
- Project-based communities
- Communities which nurture and grow a particular body of knowledge

In a 2001 APQC study the findings were that there were four generic types of community, namely:

- Communities on which members collaborate to solve everyday problems
- Communities which develop and disseminate best practices, guidelines, and procedures
- Communities which build, organise, manage and steward a body of knowledge
- Communities which innovate and create breakthrough ideas, knowledge and practices (2001:8)

Saint-Onge and Wallace (2003:35) note that “as we’ve worked with communities, we’ve seen a broad range of types of communities of practice”. At one end of the range are informal communities that are grass-roots structures, loosely organised, and formed by people who have a common need to discuss topics related to their

work. In the middle o 

communities that are more fully developed, and at the far end of the range are communities of practice that are highly motivated, aligned with strategic imperatives that significantly contribute to an organisation's performance.

In addition, Dube *et al.* (2005:145) observe that "although some literature tends to indicate that all communities of practice are similar, the concept of a community of practice is usually being seen as a one-dimensional construct". The authors propose that a closer look at what organisations do clearly reveals that while communities of practice share some common characteristics, they are also structurally very different. As gender, height, and eye colour can be used to differentiate among human beings, size, age, and geographic dispersion, to name just a few characteristics, can be used to differentiate among communities of practice.

For the purposes of this research, the types of communities proposed by McDermott (2000) will be used, namely:

- Communities which are linked to a strategic objective
- Communities which focus on tactical processes, process optimisation and sharing of best practice
- Project-based communities
- Communities which nurture and grow a particular body of knowledge

Different types of con  , and they display different characteristics depending on what stage of their life cycle we find them at.

2.2.3 Community life cycle

Like all groups of people, communities of practice experience different stages in their life cycles (Wenger *et al.* 2002). It is important to identify which stage in the life cycle the community is at, to understand the characteristics being displayed. This section will look at the various stages in the life cycle described by the various literature sources. In addition, it will outline which proposal is to be used in the design of the research.

De Bruijn (2001) identifies four stages of development, namely:

- Committing – conceptualising and planning; understanding the relevant concepts of information, explicit and tacit knowledge, and intellectual capital.
- Start-up – launching the community, identifying the leader, facilitator and key members. Outlining the goals of the community and how their attainment will be measured, and ensuring the extent of the domain of the community.
- Operating – knowledge sharing, building knowledge assets and working towards goal attainment. The facilitator ensures the focus of discussions within the domain of the community.
- Winding down – when the community has achieved its goals and the knowledge work is no longer relevant.

Similarly, Wenger *et al.* (2002) identify four life cycle stages of communities of practice:

- Launched – the community has been identified and launched, with members, roles, domain and goals identified.
- Developing – membership is growing, the facilitator has been trained, and activity is on the increase.
- Mature – there are steady contributions, the goals are being achieved.
- Dissolved – the community has achieved its goals, the activity has ceased and all explicit knowledge has been captured and perhaps archived for future reference.

It can be seen from the above that the life cycle descriptions are similar. For the purposes of the research, the names of the stages proposed by Wenger *et al.* (2002) will be used, namely:

- Launched
- Developing
- Mature, and
- Dissolved

The critical success factors need to be explored in order to understand what the organisation must have in place to ensure their survival and growth.

2.2.4 Benefits from communities of practice

The benefits realised from communities of practice can be significant and vary depending on organisation and community type. APQC (2001) notes that in the modern, knowledge-based global organisation, communities create a channel for knowledge to cross boundaries created by workflow, functions, geography and time.

Allee (2000) provides a synthesis of benefits from the perspective of the business, the community, and the individual community member. She demonstrates for us that it is essential for there to be benefits for all three for the survival of the community.

Wenger *et al.* (2002) dedicate two chapters to the value and benefit derived from communities of practice, to conclude that the community of practice concept is key to enabling the socialisation component. It is in these communities that “individuals develop the capacity to create, refine, share, and eventually apply knowledge – knowledge that makes an individual a valuable organisational resource”.

Snyman and Van den Berg (2003) state that knowledge is shared through social interaction between people, and that these interpersonal relationships are the

foundation of commu 003: 49-51) expand on the benefits and emphasise that ". . . the communities provide a vessel for learning for their members and innovation for the practice. And if properly leveraged . . . can be harvested – adding significant value to the organisation". In this vein, communities of practice are being regarded as key components to growing the knowledge of the organisation and the sustainability of the organisation into the future.

In order to realise the benefits from communities of practice, it is important to understand the possible types of community, and how they relate to the particular knowledge domain required for the community.

This section has covered an introduction to communities of practice and outlined the definitions which can be used in understanding them. In addition, the types of community and the stages of their life cycle found in the literature were reviewed. The types and stages chosen for the research were noted. The section concluded with the benefits to be realised from communities of practice.

2.3 Critical Success Factors

As communities of practice can add value to organisations, the critical success factors for their success need to be identified. However, the term "critical success factors" needs to be understood first.

The term "critical success factor" is a business term for an element which is necessary for an organisation or project to achieve its mission. A company may

use the critical succe 

r identifying the important elements of its success. The term “critical success factor” was first used by Rockart (1979). He defined it as “the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation”.

2.4 Critical Success Factors for Communities of Practice

The most referenced work on the critical success factors for communities of practice is that of McDermott (2000). Through his studies and involvement with communities of practice McDermott has concluded that the critical success factors fall into four main categories, namely, management, community, technical, and personal challenges.

The list below outlines the ten critical success factors cited by McDermott and how they relate to these different categories:

Management Challenges:

- Important topics
- Well respected leader and facilitator
- Time and encouragement to participate
- Build on organisation’s core values and strategy

Community Challenges:

- Key thought-leader involvement
- Build personal relationships

- Passionate cor 
- Thinking and sharing opportunities and forums

Technical Challenge

- Stable and easy to use technology enablers

Personal Challenge

- Trust

Saint-Onge and Wallace. (2003:105) have their list of critical success factors or "must haves" in order to provide a fertile ground for communities. Based on the work of McDermott (2000), they have developed their list as follows:

- Shared sense of purpose and ownership
- Self-initiated view of learning and a readiness to learn from each other
- Overall climate of trust and involvement
- Partnering mindset and corresponding skills
- Strong technology platform
- Supportive context and leadership endorsement
- Realistic expectations on return on investment

Supporting research (Malhotra 2000, APQC 2001, Gamble 2002; Gupta and Sharma 2003: Hildreth 2003; Hildreth and Kimble 2004;) has elicited a long list of potential success factors for communities of practice. This list can be found in Appendix 1.

The list of potential s 

oduce fourteen factors for the purposes of the research, namely:

- Clear goals
- Core group
- Facilitator
- Leader
- Line management support
- Participation
- Personal value
- Promotion of the community
- Quality content
- Quality members
- Sponsor
- Strategic alignment
- Trust
- User-friendly technology

In the following subsections these potential success factors will be expanded upon so that they can be understood in the context of the research.

2.4.1 Clear goals

A number of references to goals and measurement were clustered together under the topic of “clear goals”.

A dimension requiring measurement, is the value contribution of the community (APQC 2001). Wenger *et al.* (2002) outline a community health check which can be conducted periodically, and a questionnaire used for this purpose can be found in Appendix 3. The health check identifies whether the goals are clear, understood by all in the community and progress towards their being achieved.

The assessment of goal setting and achievement is also shown in the work of Saint-Onge and Wallace (2003) to be a critical success factor for communities of practice.

Goals, their setting, communication and measurement were included in the set of factors included in the research.

2.4.2 Core group

Wenger *et al.* (2002) identify three types of members of a community of practice, namely the core group, active members and peripheral members. The authors describe the core group as comprising fewer than eight members, who take on a large proportion of the work in the community, and the “resources for delivery”.

McDermott (2000) re e main contributors in the community, as well as making reference to a core group as one of the types of community membership.

The presence of a core group in the community was tested in the research to determine whether it was considered a critical success factor.

2.4.3 Facilitator

In the literature the facilitator is seen as the person who ensures the communication between the community members, follows up on contributions promised, and generally keeps the community activity alive.

Rumizen (2002:91) describes the role of the facilitator as key to the survival of the community, and points out that “the way to kill a community of practice is to remove the facilitator”.

Snyman and Van den Berg (2003:5) recommend that the facilitator is “enthusiastic, grasping the important role of knowledge within the organisation, someone not afraid to of change and . . . technically adept”.

The facilitator overcomes knowledge barriers and is well positioned for conflict resolution within the community, should conflict arise (McDermott 2000).

In some of the literature this role was also referred to as the “moderator”, but to reduce confusion, the term “facilitator” was used in the research.

2.4.4 Leader

A number of references to leadership of the community of practice can be found in the literature. The APQC (2001) study on critical success factors for communities of practice identified “strong leadership, as well as leadership transitions for different maturity phases” as key factors.

Gamble (2002) expressed a strong need for active and involved leadership, and Hildreth (2003) refers to a skilled and dedicated leader.

The role of appropriate leadership within the community was therefore taken as one of the factors to be tested for in the research.

2.4.5 Line management support

Davenport, De Long, and Beers (1997:19) have three types of management support important to enabling knowledge sharing:

- Sending messages to the organisation supporting knowledge sharing as a critical success factor
- Providing funding and infrastructure
- Clarity on which knowledge is key (identifying core competence)

Davenport and Prusak (1998:39) warn that “managers should regard communities of practice as company assets and look for ways to preserve them . . . managers shouldn’t underestimate the value of talk”.

When emphasising the importance of management support, Snyman and Van den Berg (2003) see the clarification of relevant terms such as “tacit and explicit knowledge”, “intangible assets”, and “intellectual capital” as crucial to the success of any knowledge management activity (including communities of practice).

Line management support was taken as meaning the support of supervisors and managers in the business, and not the same as the community of practice leader or sponsor.

2.4.6 Participation

Participation in a virtual environment is not as easy for the members of the community to judge, compared to face-to-face interaction. Davenport *et al.* (1997:19) refer to participation by referencing work done in this field - “MIT researcher Tom Allen has found in many studies that scientists and engineers exchange knowledge in direct proportion to their level of face-to-face contact”. APQC (2001:9) note in their research that although communication tools are used by communities, when rating the effectiveness of media, people “still rate face–to-face interaction as most effective”.

Referring to participation, Snyman and Van de Berg (2003) note that “a key characteristic of community membership is that it is determined by participation and contribution rather than position” and that peer recognition should not be underestimated.

Participation by mem  n as a factor to test for in the research.

2.4.7 Personal value

In the literature a number of references were made relating to the importance of personal value for the community of practice member. Davenport *et al.* (1997) argue that knowledge is inextricably bound to people's egos and occupational interests. Including the presence of motivation to create, share, and use knowledge is an intangible critical success factor for knowledge sharing. The authors give the example of the organisation Texas Instruments which created an annual "Not Invented Here But I Did It Anyway" award to acknowledge those who shared and those who applied the knowledge.

Wenger *et al* (2002) and De Bruijn (2001) similarly recommend that knowledge sharing be included in the performance contract of knowledge workers while Buckman (2004) insists that knowledge sharing and willingness to learn are two sides of the same coin, and should therefore be included in performance contracting.

Receiving personal value from participating in a community of practice, whether it be a tangible or intangible value, was included as a factor in the research project.

2.4.8 Promotion of the community

Promotion of the community takes on a number of forms as described in the literature as the "intentional marketing of the community" APQC (2001), "having a

communication strate tside stakeholders" (Gupta and Sharma 2003) and "promotion of the community to engage new members (Malhotra 2000).

McDermott (2000) stresses the importance of celebrating successes of the community to encourage participation, engender line management support and promote the concept of communities of practice.

A number of factors were combined to form a group called "promotion" for research purposes.

2.4.9 Quality content

The content domain of the community is seen as key by Davenport *et al.* (1997) as they give the example of a community in a technical organisation having an extensive thesaurus of technical terms for clarity; this allows for browsing and searching to determine the expert network associated with these terms. The structure of the explicit knowledge content therefore changes with usage and remains current and relevant.

Stewart (2000) gives a good analogy when he says that knowledge sharing communities develop around problems or issues of importance, like a pearl forms in an oyster.

The quality of content and community was included as a factor to test for in the research.

2.4.10 Quality members

The quality of the members in the community is subjective, and seen from the perspective of other members of that community. APQC (2001) note that there needs to be a visible emphasis on people in the community to allow for credibility building.

The presence of subject-matter experts is important, as it gives credibility to the community and its activities (McDermott 2000). Building on this theme, thought-leader involvement is key for Hildreth (2003).

The presence and participation of quality members was included as a factor to test when looking for critical success factors for communities of practice.

2.4.11 Sponsor

The sponsor is the person who ensures the community has a mandate for activity from the highest levels in the organisation. In addition, the sponsor is the messenger and conduit for the messages, success and achievements of the community to those in executive positions. The references include “strong community sponsorship” (APQC 2001), the necessity of having a senior sponsor (Hildreth 2003), and the availability of a sponsor to provide community funding (Malhotra 2000).

The role of the sponsor and the facilitator, and as such was included as a potential success factor in the research.

2.4.12 Strategic alignment

Communities need to have links to the formal organisation to become institutionalised (APCQ 2001). This provides legitimacy and a connection to the support, funding, and shared resources provided by the organisation.

The factor of strategic alignment was included in the research as it relates strongly to those communities set up to deliberately tackle strategic issues.

2.4.13 Trust

"Trust – or the lack of it – is at the root of success or failure in relationships and in the bottom-line results of business, industry, education and government," (Covey 2004).

Relating trust to a community of practice, Fukuyama (1995:26) states that "trust is the expectation that arises within a community of regular, honest, and cooperative behaviour, based on commonly shared norms, on the part of other members of that community". According to Levin *et al.* (2002), knowledge sharing within organisations is more successful if the knowledge recipient regards the knowledge provider as being both benevolent and competent.

Davenport and Prusak (1998:34) note that trust is the most critical component of a knowledge management initiative and can stump all the other factors. They say

that trust has three c[illegible] it must be ubiquitous, and trustworthiness starts at the top. Resnik (1993) and Du Plessis, Britz, and Davel (2006) argue that if knowledge is misrepresented when shared, the trust is violated, causing people to refrain from sharing knowledge in that community in the future.

Trust is seen as the deal maker or breaker by many in the literature review, and was included as a potential success factor in the research.

2.4.14 User-friendly technology

With the increasing use of the internet and virtual collaboration tools, the availability of user-friendly technology is becoming increasingly important for community members. Snyman and Van den Berg (2003:2) express the opinion that "the solution to the challenge of managing knowledge is sometimes erroneously seen as a technological one. Technology, is at best, one of the tools or enablers used in the knowledge management process." However, the lack of technology enablers can stunt the growth of the communities, as they can only collaborate in a face-to-face and time dependent-manner.

Buckman (2004) notes that at least 80 per cent of the work done in the community should be remote, relying on collaborative tools, for them to be effective. Du Plessis *et al.* (2006:5) note that "trustworthiness and reliability of the technology systems that are used for communicating and sharing knowledge . . . are of critical importance".

This section has given a brief description of each of the potential success factors tested in the research to determine whether they are critical success factors or not.

This chapter contained the literature review undertaken for the research project to give context to the chapters that follow. The topics covered were knowledge management, including an understanding of the term “knowledge”, tacit and explicit knowledge and applying knowledge. It then went on the describe communities of practice, with definitions, the different types, stages of the life cycle and the benefits to be realised through their implementation. Critical success factors were defined and those relating to communities of practice in the literature were reviewed.

Chapter 3 introduces the research propositions and the methods to be used in the research.

3 Chapter Thr ns

The literature review covered the concept of knowledge and knowledge management, as well as communities of practice as an approach for managing knowledge.

Communities of practice were explored further, including the different types identified as well as the life cycle stages they progress through. In addition, critical success factors for communities of practice were considered and the various views on what could be regarded as critical. Based on the literature review the following propositions are offered:

3.1 Proposition 1

Critical success factors for communities of practice exist and can be identified within the context of the Anglo American Corporation.

3.2 Proposition 2

Critical success factors for communities of practice vary with the type of community

3.3 Proposition 3

Critical success factors for communities of practice vary with the stage in the life cycle of the community

3.4 Need for the Research

Du Plessis *et al.* (2006) note that as the reliance on technology to enable virtual communities increases, the critical success factors may change from those

identified for face-to  tion takes hold, and the necessity for virtual communities of practice increases, it becomes necessary to identify the critical success factors necessary for their success.

As the Anglo American Corporation is an organisation in the process of a global expansion in an increasingly knowledge-based economy, it is seen as an environment in which this research could advantageously take place.

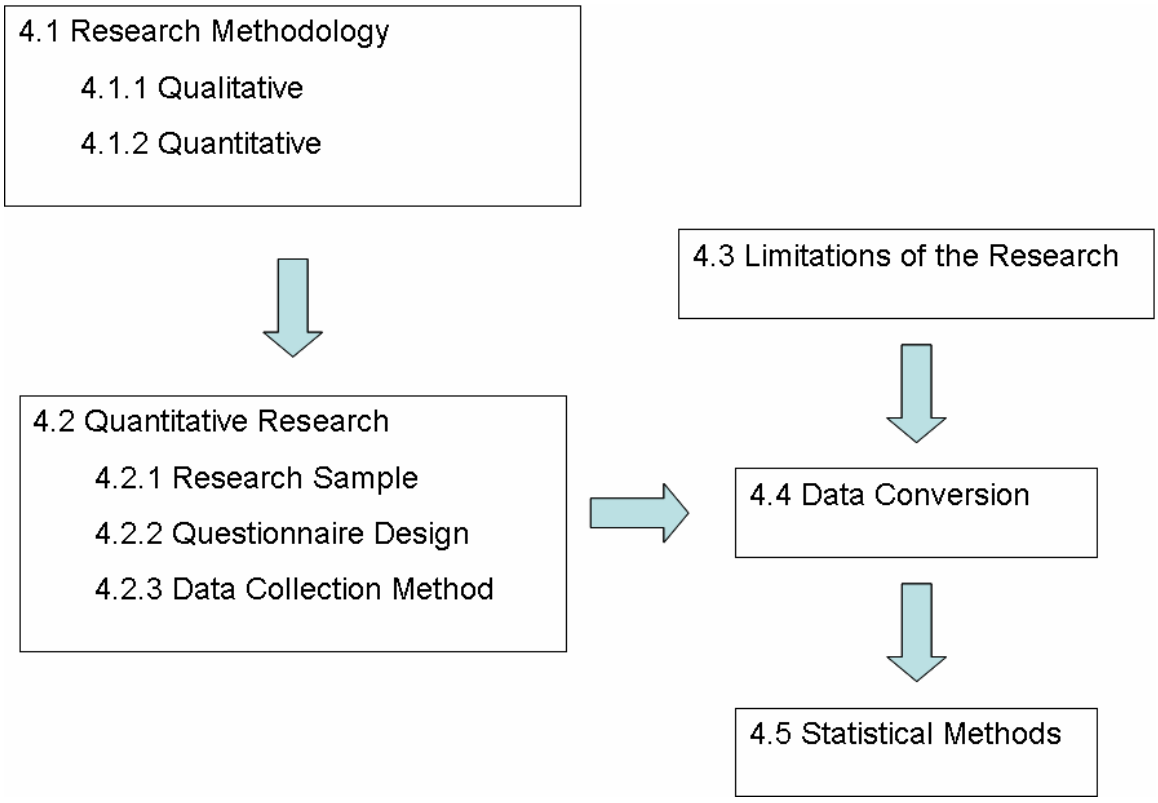
In this chapter the research propositions have been laid out, and the following chapter covers the research methodology used.

4 Chapter Fou gy

This chapter focuses on the research methodology and how it was applied to the research propositions in Chapter 1. It deals with the population, the sample size and selection, how the questionnaire was designed, the data collection process and the data analysis.

The figure below shows the flow of the chapter.

Figure 6 – Outline of Chapter 4



4.1 Research Me

The research methodology used was a combination of qualitative and quantitative research methods.

4.1.1 Qualitative

The qualitative research was conducted in the literature review, which was very informative as to the approach to be taken. The topics covered were knowledge management, including an understanding of the term “knowledge”, tacit and explicit knowledge and applying knowledge. It then went on the describe communities of practice, with definitions, the different types, stages of the life cycle, and the benefits to be realised through their implementation.

While researching the critical success factors for communities of practice in the literature it became apparent that the critical success factors for these communities could vary from organisation to organisation. Therefore, one organisation was chosen as the source for data in the quantitative research.

4.1.2 Quantitative

The data collection and analysis was quantitative by nature, but did involve some qualitative input through a focus group with four individuals. The research data collection process used a survey; this is regarded as more efficient and economical than observations (Emory and Cooper 1991). The survey was conducted using a questionnaire enabled by an on-line survey tool. The questions were close-ended, some giving only the choice of four options, and others using a Lickert Scale. An

open text area was ir  h the contributors felt was important. The questionnaire can be found in Appendix 3.

4.2 Quantitative Research

4.2.1 Research sample

One organisation was chosen as the source for data in the quantitative research. This was done as a result of the critical success factors for communities of practice varying from organisation to organisation, as observed above.

The research was conducted in Anglo American, a large and highly distributed organisation in the mining and resources sector that had no previous history of any formal knowledge management. However, without formal support, communities of practice had developed organically with custodians rather than formal leaders and facilitators.

The researcher had access to the members of the Anglo American communities of practice, and as a result convenience sampling was applied. Patton (2002) argues that convenience sampling is suitable in particular cases where credibility is important and that the finding will be appropriate for the population of the sample. In the case of convenience sampling, Saunders *et al.* (2003:171) are of the opinion that “the validity and understanding that you will gain from your data will have more to do with your data collection and analysis skills.”

The target population ıe research and asked for their permission to be included in the survey to follow. Two hundred and thirty-three people responded positively, and the population was therefore deemed large enough to proceed.

4.2.2 Questionnaire design

The questionnaire was designed with the intention of collecting the data required to answer the research propositions.

Descriptions of each of the types of community, stages in the life cycle, as well as the potential success factors, were included in the questionnaire to ensure clarity and understanding.

The questionnaire design included the following:

- Type of community of practice (choose one of four)
- Community of practice stage in life cycle (choose one of four)
- Importance of success factor (four-point Lickert Scale)
- Free text areas should contributors wish to add to the research as their experience is valuable

The questionnaire was drafted and tested during a focus group session with those involved in knowledge management and communities of practice at Anglo American. It was discussed with the Research Supervisor and subsequently modified to include important insights and to make it more understandable to the

research population. The Anglo American executives who have knowledge management in their performance contracts for the Exploration, Coal, Gold and Platinum divisions respectively. The executive from the Anglo American Base Metals division was included at a later stage as he was on vacation at the time of the discussions.

An example of the survey and questionnaire can be found in Appendix 3.

4.2.3 Data collection method

Anglo American has a standard on-line survey tool which is used for data collection within the group. The research survey was built using this on-line tool and was based on the questionnaire. The design allowed for buttons from which the respondent could select an option, and only one option. Two free text areas were included, one for the name of the community of practice, if people wanted to add that, and a large area for people to add comments. On testing the time taken to complete the survey, it was found that the period would be approximately four minutes without the text areas being used for individual comments. The survey was distributed to the sample population via an e-mail, containing a link to the survey.

The survey feedback data was automatically collected in the survey tool, and the data downloaded to a spreadsheet for analysis. The data in the spreadsheet was checked for completeness and integrity.

4.3 Limitations o

The research tested only the views of the members of communities of practice in Anglo American, and cannot be interpreted as the views for all members of communities of practice in all organisations.

Content validity ensures that the research measures what it intends to measure (Emory and Cooper 1991). This research attempted to ensure validity through the literature review and the focus group prior to the finalisation of the questionnaire.

Reliability of the data was not tested in this research.

4.4 Data Conversion

In order to conduct quantitative statistics on the data, the responses had to be converted to a numerical format. Table 1 below outlines the values assigned to the responses for the community type and stage in the life cycle:

Table 1

Type of Community		**Stage in Life Cycle**	
Strategic	1	Launched	1
Tactical	2	Developing	2
Project	3	Mature	3
Knowledge Nurture	4	Dissolved	4

The following table s riptions for the responses relating to the importance of the potential success factors was converted to numeric values:

Table 2

Not Necessary	Nice to Have	Important	Critical
0	1	2	3

It was necessary to convert the text to numeric values for the analysis step of the research project. However, the results have been converted back to text to clarify their meaning.

4.5 Statistical Methods

The Lickert Scale responses were converted using the method described in section 4.4. The following calculations were performed in Microsoft Excel for their respective reasons:

- Mode – to find the most popular answer in the data set
- Arithmetic average – for differentiating between response types within the same mode numeric above
- Standard deviation - to determine the extent of agreement or disagreement in the data set

This chapter has outlined the research methodology, differentiating between qualitative and quantitative research. The quantitative research component was

expanded to include onnaire design and data collection methods. The limitations of the research were explored and the data conversion process explained. The chapter concluded by indicating the statistical methods used for analysis of the data.

The following chapter presents the results of the quantitative research.

5 Chapter Five – Results

The results of the survey are presented in this chapter, including the literature review and the survey relating to the three propositions to be tested. The overall data characteristics are described, and then the results are presented as they will be used for interpretation of the three propositions.

Figure 7 – Outline of chapter 5:

5.1 Qualitative Research - Literature Review
- 5.1.1 Types of community of practice
- 5.1.2 Life cycle stage of communities

5.2 Quantitative Research – Data Characteristics

5.3 Survey Results

- 5.3.1 Proposition 1 - Critical success factors for communities of practice exist and can be identified within the context of the Anglo American Corporation
- 5.3.2 Proposition 2 - Critical success factors for communities of practice vary with the type of community
  - Strategic Communities
  - Tactical Process Communities
  - Project Communities
  - Knowledge Nurture Communities
- 5.3.3 Proposition 3 - Critical success factors for communities of practice vary with the stage in the life cycle
  - Launched stage
  - Developing stage
  - Mature stage
  - Dissolved stage

5.4 Relevance of the Data

The format above has been used to present the results in this chapter.

5.1 Qualitative Research – Literature Review

This section will cover the results from the literature review which were used as an input to the survey used for collecting the quantitative data.

5.1.1 Types of community of practice

From the literature review it was found that the most appropriate types of community to be tested for in Anglo American Corporation were those which appear in the table below:

Table 3

Name of Type	Description
Strategic	Communities which are linked to a strategic objective
Tactical Process	Communities which focus on tactical processes, process optimisation and sharing of best practice
Project	Project-based communities
Knowledge Nurture	Communities which nurture and grow a particular body of knowledge.

These four descriptions were used in the survey to ensure a high understanding of the meaning of the type names.

5.1.2 Life cycle st  tice

From the literature review, the four stages of the life cycle were selected, based on those defined by Wenger *et al.* (2002). The table below lists the four types with their descriptions.

Table 4

Life cycle stage	Description
Launched	The community has been identified and launched, with members, roles, domain and goals identified.
Developing	Membership is growing, the facilitator has been trained, and activity is on the increase.
Mature	There are steady contributions, the goals are being achieved.
Dissolved	The community has achieved its goals, the activity has ceased and all explicit knowledge has been captured and perhaps archived for future reference.

Theses four names were used to describe the stages in the survey, in conjunction with the description.

5.2 Quantitative [illegible]tics

The data set collected by the on-line survey tool was exported to a spreadsheet for analysis. The data characteristics are described as:

Table 5

E-Mails sent to research population	233	
Replies received	158	68%of requests
Replies with free text contributions	101	64% of replies

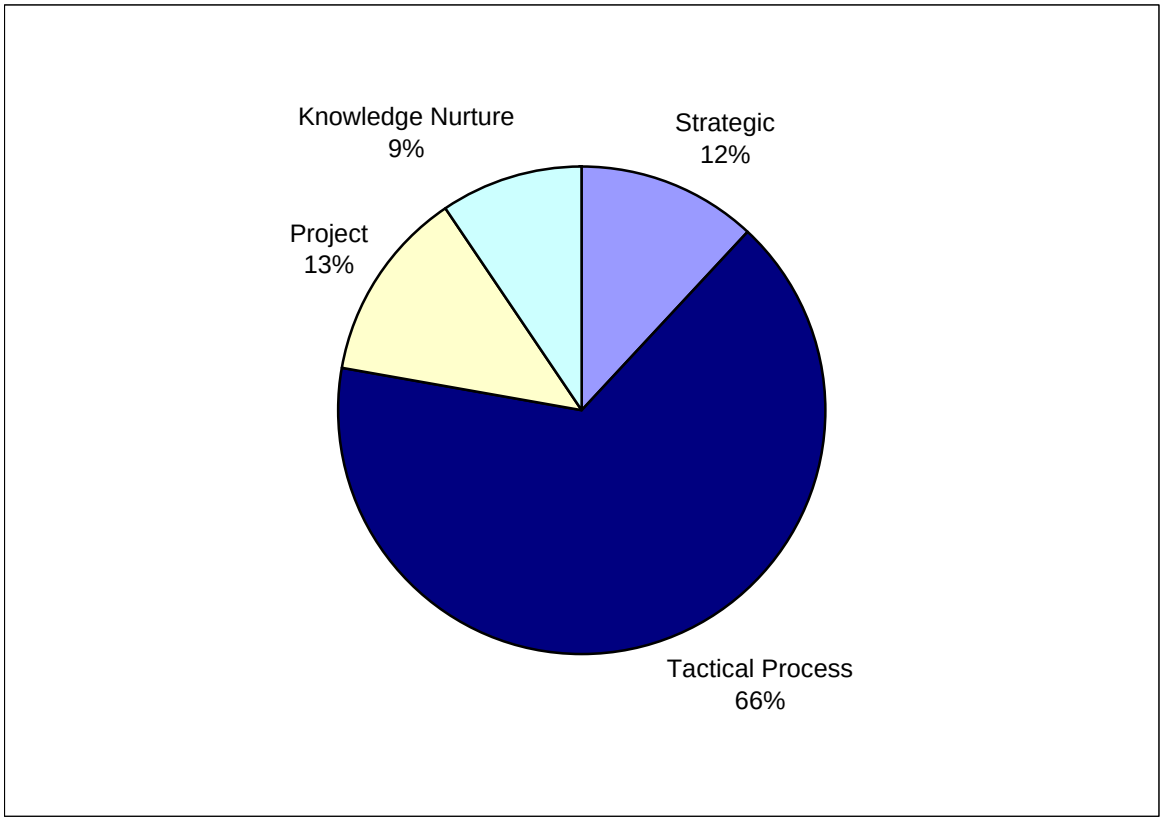
5.2.1 Data characteristics by type of community

The following table and graph show the distribution of the data by type of community.

Table 6

Type of Community	**Number in Data Set**	
Strategic	19	12%
Tactical Process	104	66%
Project	20	13%
Knowledge Nurture	15	9%

Figure 8 - Data by ty



The graph above shows that the tactical process communities dominate the sample.

5.2.2 Data charac of the community

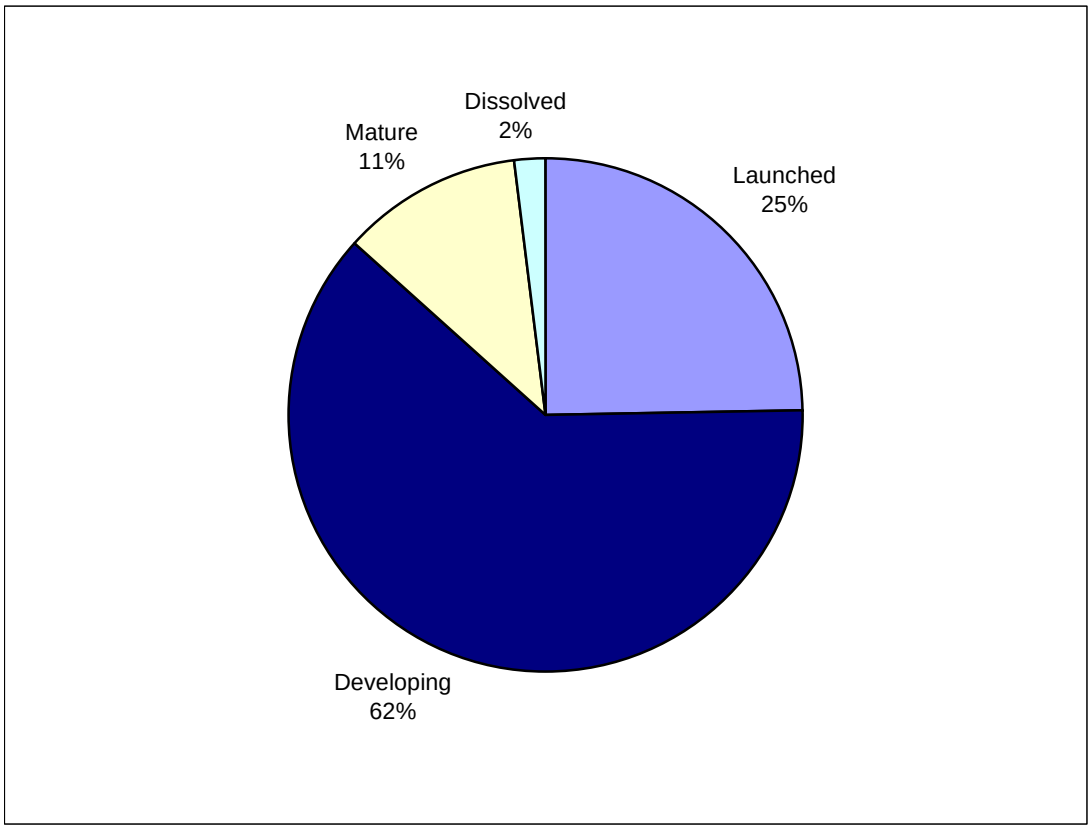
The following table and graph represent the data by life cycle stage of the community.

Table 7

Stage of Life Cycle	Number in Data Set	
Launched	39	25%
Developing	98	62%
Mature	18	11%
Dissolved	3	2%

The life cycles shown in the table are represented in the figure on the following page.

Figure 9 - Data by stage in the life cycle of the community



The chart shows that the communities in the developing stage of the life cycle dominate the sample.

5.2.3 Data charac :le stage

The table below shows the numbers of responses by type and life cycle stage of community:

Table 8

	Launched	Developing	Mature	Dissolved
Strategic	4	13	2	0
Tactical Process	26	67	9	2
Project	5	9	5	1
Knowledge Nurture	4	9	2	0

The table shows that the tactical process communities on the developing stage are the most dominant, followed by the tactical process communities in the launched phase.

The responses on the critical success factors will be looked at in terms of the propositions to be tested.

5.3 Survey Results

The entire data set was processed for the three propositions in the research. In order to accomplish this, the numerically converted Lickert Scale data set had statistics run on it and the entire output can be found in Appendix 4. The mode values of the data were used as this indicates the most popular answer, arithmetic average values were used to determine whether there is a difference within a group within the same mode, and the fiftieth percentile was used to see where the majority of the responses lay. The standard deviation gives an indication of to what extent the respondent population are in agreement. The Key 1 gives the numeric conversion of the Lickert Scale:

Key 1

Not Necessary	Nice to Have	Important	Critical
0	1	2	3

The entire output from the survey was treated in this manner, and the results by proposition are found in the subsections which follow.

5.3.1 Proposition s for communities of practice exist and can be identified within the context of the Anglo American Corporation

The table below shows the summarised analysis for the whole data set:

Table 9

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
User-friendly Technology	3	2.56	3	0.523
Quality Content	3	2.52	3	0.514
Line Management Support	2	2.27	2	0.711
Facilitator	2	2.25	2	0.713
Participation	2	2.23	2	0.507
Trust	2	2.23	2	0.596
Strategic Alignment	2	2.20	2	0.694
Quality Members	2	2.20	2	0.591
Core Group	2	2.19	2	0.640
Personal Value	2	2.18	2	0.624
Promotion of the Community	2	2.18	2	0.634
Clear Goals	2	2.17	2	0.800
Leader	2	2.11	2	0.917
Sponsor	2	1.99	2	0.848

The analysis results above will be used in the interpretation of the data considering Proposition 1 in the following chapter.

5.3.2 Propositions for communities of practice vary with the type of community

The data set relating to the type of community needs to be considered for this proposition. The data set has been split by community type and the analysis conducted on each set.

Strategic Communities

The data set for the strategic type communities was separated from the main set and the table below shows the summarised analysis corresponding to this type.

Table 10

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
Quality Content	3	2.68	3	0.478
User-friendly Technology	3	2.58	3	0.507
Line Management Support	3	2.47	3	0.612
Facilitator	3	2.47	3	0.612
Clear Goals	3	2.47	3	0.612
Sponsor	3	2.32	3	0.820
Leader	3	2.26	2	0.872
Strategic Alignment	3;2	2.42	2	0.607
Participation	2	2.32	2	0.582
Trust	2	2.21	2	0.631
Quality Members	2	2.26	2	0.562
Core Group	2	2.16	2	0.834
Personal Value	2	2.37	2	0.597
Promotion of the Community	2	2.21	2	0.536

The analysis results a  ion of the data considering Proposition 2 in the following chapter.

Tactical Process Communities

The data set for the tactical process type communities was separated from the main data set. The table shows the summarised analysis for the data corresponding to the tactical process type of community of practice:

Table 11

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
User-friendly Technology	3	2.57	3	0.517
Quality Content	2	2.49	2	0.502
Line Management Support	2	2.23	2	0.727
Facilitator	2	2.22	2	0.750
Participation	2	2.23	2	0.627
Trust	2	2.21	2	0.631
Strategic Alignment	2	2.15	2	0.734
Quality Members	2	2.22	2	0.574
Core Group	2	2.19	2	0.620
Personal Value	2	2.16	2	0.609
Promotion of the Community	2	2.15	2	0.620
Clear Goals	2	2.14	2	0.852
Leader	2	2.08	2	0.932
Sponsor	2	1.98	2	0.812

The analysis results above will be used in the interpretation of the data considering Proposition 2 in the following chapter.

The data set for the project type communities was separated from the main data set. The table shows the summarised analysis for the data corresponding to the project type of community of practice:

Table 12

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
Quality Content	3	2.45	2.50	0.605
User-friendly Technology	3;2	2.50	2.50	0.513
Participation	2	2.40	2	0.507
Facilitator	2	2.25	2	0.716
Core Group	2	2.25	2	0.639
Strategic Alignment	2	2.20	2	0.616
Line Management Support	2	2.15	2	0.813
Trust	2	2.10	2	0.718
Quality Members	2	2.05	2	0.759
Personal Value	2	2.05	2	0.605
Promotion of the Community	2	2.05	2	0.826
Clear Goals	2	2.00	2	0.562
Leader	2	1.90	2	1.021
Sponsor	2	1.70	2	0.979

The analysis results above will be used in the interpretation of the data considering Proposition 2 in the following chapter.

The data set for the knowledge nurture type communities was separated from the main data set. The table shows the summarised analysis for the data corresponding to the knowledge nurture type of community of practice:

Table 13

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
Quality Content	3	2.60	3	0.507
User-friendly Technology	3	2.53	3	0.640
Leader	3	2.47	3	0.640
Line Management Support	2	2.47	2	0.516
Promotion of the community	2	2.47	2	0.516
Participation	2	2.40	2	0.507
Core Group	2	2.40	2	0.507
Trust	2	2.27	2	0.458
Strategic Alignment	2	2.27	2	0.594
Facilitator	2	2.2	2	0.561
Personal Value	2	2.20	2	0.775
Clear Goals	2	2.20	2	0.862
Quality Members	2	2.13	2	0.516
Sponsor	2	2.07	2	0.884

The analysis results above will be used in the interpretation of the data considering Proposition 2 in the following chapter.

5.3.3 Proposition s for communities of practice vary with the stage in the life cycle of the community.

The four life cycles for communities of practice used for the research are Launched, Developing, Mature, and Dissolved.

The data set relating to the life cycle stage of community needs to be considered for this proposition. The data set has been split by community type and the analysis conducted on each set.

Communities in the Launched Phase

The data set for the communities in the launched phase was separated from the main data set. The table summarises the analysis for the data corresponding to the launched phase of community of practice:

Table 14

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
User-friendly Technology	3	2.69	3	0.468
Quality Content	3	2.56	3	0.502
Leader	3	2.13	3	1.128
Quality Members	2	2.33	2	0.662
Core Group	2	2.33	2	0.662
Personal Value	2	2.23	2	0.667
Participation	2	2.21	2	0.615
Promotion of the Community	2	2.21	2	0.656
Line Management Support	2	2.18	2	0.885
Clear Goals	2	2.18	2	0.823
Strategic Alignment	2	2.15	2	0.745
Facilitator	2	2.13	2	0.894
Trust	2	2.05	2	0.686
Sponsor	2	1.97	2	0.903

The analysis results above will be used in the interpretation of the data considering Proposition 3 in the following chapter.

The data set for the communities in the developing phase was separated from the main data set. The table shows the summarised analysis for the data corresponding to the developing phase of community of practice:

Table 15

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
User-friendly Technology	3	2.53	3	0.522
Quality Content	3	2.50	3	0.523
Facilitator	2	2.33	2	0.622
Line Management Support	2	2.31	2	0.649
Trust	2	2.27	2	0.566
Participation	2	2.26	2	0.580
Clear Goals	2	2.23	2	0.743
Promotion of the Community	2	2.20	2	0.591
Strategic Alignment	2	2.19	2	0.698
Core Group	2	2.14	2	0.658
Leader	2	2.13	2	0.795
Quality Members	2	2.12	2	0.542
Personal Value	2	2.11	2	0.607
Sponsor	2	1.98	2	0.873

The analysis results above will be used in the interpretation of the data considering Proposition 3 in the following chapter.

The data set for the communities in the mature phase was separated from the main data set. The table shows the summarised analysis for the data corresponding to the mature phase of community of practice:

Table 16

Potential Success Factor	Mode	Average	50th Percentile	Standard Deviation
Quality Content	3	2.50	2.5	0.514
User-friendly Technology	2	2.39	2	0.608
Personal Value	2	2.39	2	0.608
Trust	2	2.33	2	0.485
Strategic Alignment	2	2.33	2	0.594
Quality Members	2	2.33	2	0.594
Participation	2	2.28	2	0.752
Line Management Support	2	2.22	2	0.647
Facilitator	2	2.11	2	0.758
Core Group	2	2.06	2	0.416
Sponsor	2	2.06	2	0.639
Promotion of the Community	2	2.00	2	0.840
Leader	2	1.89	2	1.079
Clear Goals	2	1.83	2	0.985

The analysis results above will be used in the interpretation of the data considering Proposition 3 in the following chapter.

The data set for the communities in the dissolved phase was separated from the main data set, and only comprised three data points. Table 17 shows the summarised analysis for the data corresponding to the dissolved phase of community of practice:

Table 17

Potential Success Factor	**Mode**	**Average**	**50th Percentile**	**Standard Deviation**
User-friendly Technology	3	2.67	3	0.577
Quality Content	3	2.67	3	0.577
Line Management Support	3	2.67	3	0.577
Trust	3	2.67	3	0.577
Core Group	3	2.67	3	0.577
Leader	3	2.67	3	0.577
Facilitator	2	2.33	2	0.577
Strategic Alignment	2	2.33	2	0.577
Personal Value	2	2.33	2	0.577
Sponsor	2	2.33	2	0.577
Quality Members	None	2.00	2	1.000
Promotion of the Community	2	2.00	2	0.000
Clear Goals	None	2.00	2	1.000
Participation	2	1.67	2	0.577

Since there are only three data points for this community life cycle stage, the analysis cannot be considered reliable and fully representative. The analysis results above however will be used in the interpretation of the data considering Proposition 3 in the following chapter.

5.4 Relevance of

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The data set collected in the research is regarded as representative of the Anglo American organisation with respect to communities of practice. The table below outlines the replies received:

Table 18

E-mails sent to research population	233	
Replies received	158	68%of requests

The number of replies is acceptable in terms of the law of large numbers which states that “if an event of probability *p* is observed repeatedly during independent repetitions, the ratio of the observed frequency of that event to the total number of repetitions converges towards *p* as the number of repetitions becomes arbitrarily large” (Grimmett and Stirzaker 1992). As the number of replies received is 68 per cent of the total population, the average results can be regarded as reasonably close to the average of the entire population.

The table below from section 5.2.3. shows the numbers of responses by type and life cycle stage of community:

Table 8

	Launched	**Developing**	**Mature**	**Dissolved**
Strategic	4	13	2	0
Tactical Process	26	67	9	2
Project	5	9	5	1
Knowledge Nurture	4	9	2	0

The table shows that the tactical process communities on the developing stage are the most dominant, followed by the tactical process communities in the launched phase. The law of large numbers does not apply to the small populations and therefore these data points have been used within the larger grouping only.

The responses on the critical success factors have been looked at in terms of the propositions requiring testing.

This chapter has presented the results of the research, both qualitatively and quantitatively. Results have been gathered relating to the three propositions in the outline of the research and these results are deemed to be of relevance. The next chapter will discuss these results and how they relate to the three propositions.

6 Chapter Six ults

In this chapter the results of the research are discussed with the conclusions drawn from them, relating to the three propositions posed. The outline of this chapter is shown below to indicate its flow.

The chapter then leads on the conclusion of the research report.

6.1 Proposition 1: Success factors for communities of practice exist and can be identified in the context of the Anglo American Corporation

In this section, the quantitative results are discussed in relation to the first proposition. The entire data set was considered for this proposition and the full set of results can be found in Appendix 4. The table shows the factors regarded as critical.

Table 19

Potential Success Factor	Mode	50th Percentile	Standard Deviation
User-friendly Technology	Critical	Critical	Acceptable
Quality Content	Critical	Critical	Acceptable

From the above table it can be seen that user-friendly technology and quality content are the two factors considered critical by the whole response population. The standard deviations for these two factors are acceptable which means that there is no significant difference of views in this regard. These two factors are rated highly irrespective of the type of community or the stage of the life cycle the community finds itself at. Therefore, support of these two critical success factors would benefit all communities in the Anglo American Corporation.

Line management sup 

participation by community members and trust appeared next on the order of importance.

The least desirable if the potential success factors were the presence of clear goals, a leader and a sponsor. It can also be seen that for these three the standard deviations are fairly high which means that there is a level of disagreement in the research population regarding the importance of these three factors. This can be explained in the sections to come as the requirement for clear goals, a leader and a sponsor vary depending on the type and maturity of the community.

Although the overall results indicate that respondents either rated factors as “critical” or “important”, a close look at the data shows that responses did include “nice to have” and “not necessary”.

Further analysis of the data produced some specific results for the various types of community within Anglo American.

6.2 Proposition 2: [illegible]s for Communities of Practice Vary with the Type of Community

The results of the survey had to be analysed in conjunction with the information available regarding the distribution of the types of communities within the data set. The following table from section 5.2.1 shows the breakdown of the data set by community type:

Table 6

Type of Community	Number in Data Set	
Strategic	19	12%
Tactical Process	104	66%
Project	20	13%
Knowledge Nurture	15	9%

As can be seen in this table the most dominant type of community is that focused on sharing knowledge on tactical processes. The remaining three types of community are almost equally represented and therefore deserve analysis and comment.

The data set was split by community type and the analysis conducted on each set.

6.2.1 Strategic co

The data set for the strategic type communities was separated from the main data. The table shows the results which were regarded as critical. The full set of results can be found in Appendix 4.

Table 20

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Low
User-friendly Technology	Critical	Critical	Acceptable
Line Management Support	Critical	Critical	Acceptable
Facilitator	Critical	Critical	Acceptable
Clear Goals	Critical	Critical	Acceptable
Sponsor	Critical	Critical	Fairly high
Leader	Critical	Important	Fairly high

The strategic type of community considers a large number of factors to be “critical success factors” relative to the whole research population. Considered “critical” are quality content, user-friendly technology, line management support, the presence of a facilitator, clear goals, a sponsor, a leader and strategic alignment. The appearance of strategic alignment in the middle of the list at first appears at odds with the type of community. However, it should be noted that the differences in the average ratings for all these factors is so small that it can be considered within statistical error. The requirements for leader and sponsor have fairly high standard deviations which implies that there is not much consensus in the respondent group

for the critical nature s however with the fiftieth percentile, as the majority has voted for a sponsor and not for a leader.

6.2.2 Tactical process communities

The tactical process type communities are in the majority for the responses received in the research (104 participants) and the data set for the these communities was separated from the main data set for analysis. The table shows the only factor considered a critical success factor, while the full results can be found in Appendix 4

Table 21

Potential Success Factor	**Mode**	**50th Percentile**	**Standard Deviation**
User-friendly Technology	Critical	Critical	Acceptable

The analysis of the results shows that only one factor, user-friendly technology, is regarded as “critical”. Quality content, which rates as “critical” for all the other types of community, is seen by this type as “important”. The standard deviations for the top eleven factors were acceptable which shows that there was no significant level of disagreement with regard to the rating of these factors. A deeper understanding is gained by looking closer at the life cycle stages present in this set of communities.

The table below show  up this group:

Table 22

Life Cycle Stage	Number	
Launched	26	25%
Developing	67	64%
Mature	9	9%
Dissolved	2	2%

Sixty-four per cent of the communities are in the developing stage, and it is the data from this sub-set which rates quality content as “important” dominantly, thereby lowering its overall rating in the entire tactical process type set.

Line management support comes a close third to the above-mentioned two factors. The literature indicates that in cases of large multinational organisations, line management support is critical to allow for a mandate or permission to seek advice from others rather than having to solve problems internal to the department (APQC 2001).

The factors which rate the lowest relative to the whole list are clear goals, leader and sponsor. These factors also have fairly high standard deviations which means that there is not consensus in the tactical process community base regarding their relative importance. An observation is that this could be an indicator of the culture of the organisation and the acceptance within that culture for knowledge sharing, especially when it comes to sharing tactical processes.

6.2.3 Project communities

The data set for the project type communities was separated from the main data set and the full set of results can be found in Appendix 4. The table below outlines the factors which were regarded as critical:

Table 23

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Acceptable
User-friendly Technology	Critical	Critical	Acceptable

The two factors which were found to be critical were quality content and user-friendly technology. Both these factors had acceptable standard deviations showing that there was a fair level of consensus in the group of respondents.

The project communities rated the presence of a leader and sponsor, and promotion of the community, as the least important factors. Wenger *et al.* (2002) note that project type communities are more formal than the other types of communities of practice, as roles are well defined. Therefore, the rating of these factors could be low as the project manager and project sponsor roles are well defined prior to the launching of the community of practice. In addition, promotion of the community could be a low priority as projects have usually been justified in the approval process and therefore are felt not to need further promotion in order to succeed.

6.2.4 Knowledge

In the research, the fewest (9 per cent) of the responses came from this type of community, and the full result set can be found in Appendix 4. The table shows the factors regarded as critical for this type of community:

Table 24

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Acceptable
User-friendly Technology	Critical	Critical	Acceptable
Leader	Critical	Critical	Acceptable

Quality content, user-friendly technology and the presence of a leader are seen as the critical factors. McDermott (2000) notes that communities set up to nurture and grow knowledge over many years require strong and dedicated leadership.

Clear goals and the availability of a sponsor came out with low overall averages, although the standard deviations for the two factors were fairly high, indicating a degree of disagreement amongst the respondents.

The following subsection looks at the critical success factors found for the various stages in the life cycles of the communities.

6.3 Proposition 3: Success factors for communities of practice vary with the stage in the life cycle of the community

This section discusses the results of the survey with respect to proposition three. The factors regarded as critical for each stage in the life cycle are discussed.

6.3.1 Communities in the launched phase

The table below shows critical success factors for the communities in the launched phase of their life cycle.

Table 25

Potential Success Factor	Mode	50th Percentile	Standard Deviation
User-friendly Technology	Critical	Critical	Low
Quality Content	Critical	Critical	Acceptable
Leader	Critical	Critical	High

User-friendly technology, quality content and the presence of a leader are seen as critical success factors. Wenger *et al.* (2002) and Dube *et al.* (2005) note that the launch phase of the community needs to be led by a leader determined to make a success of the community of practice. It is during this phase that failure is most likely (Wenger *et al.* 2002).

In the literature (McDermott 2000, Rumizen 2002, Wenger *et al.* 2002, Saint-Onge and Wallace 2003) the role of a facilitator appears to be critical to the success of a community in the launch phase. It does appear to be the case for the community

members surveyed ir ıce of a facilitator appears third last on the list of priorities.

6.3.2 Developing communities

The full result set can be found in Appendix 4 and the table below shows those factors which were regarded as critical by the communities in the developing phase.

Table 26

Potential Success Factor	**Mode**	**50th Percentile**	**Standard Deviation**
User-friendly Technology	Critical	Critical	Acceptable
Quality Content	Critical	Critical	Acceptable

User-friendly technology and quality content were seen as the only two factors critical to a developing community. This phase in the life cycle was the most dominant in the sample (62 per cent) and therefore it is not surprising that the two critical success factors identified are the same two for the whole data set in proposition 1.

The presence of a facilitator came a close third although the overall view was that it was important not critical.

Personal value was g  to the other factors, which does not match the view in the literature of the necessity to answer the question "What's in it for me?" (Rumizen 2002)

6.3.3 Mature communities

The table shows that there is only one factor which was regarded as critical in the mature phase of the community life cycle.

Table 27

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Acceptable

The number of responses for this phase in the life cycle was 18 (11 per cent) which cannot be large enough to satisfy the law of large numbers. However, the standard deviation was acceptable which indicates that a fair amount of agreement existed within the respondents in this subset.

Little more can be deduced from the results as no other factors were voted as being sufficiently important to be regarded as critical.

6.3.4 Dissolved communities

During the survey, only three people responded that their communities had been dissolved. The results for this phase cannot be included in the report as they do

not have the reliabilit 

numbers, and too many of the ratings of the factors were inconclusive.

This chapter has contained the discussion of the results, most of which were in agreement with the literature review and a few which were surprising. The factors which rated as critical success factors almost consistently were quality content and user-friendly technology.

6.4 Aggregation

The findings have been summarised in the table below:

Table 28

	Quality Content	User-friendly technology	Line management support	Facilitator	Clear goals	Sponsor	Leader
Proposition 1 Entire group	X	X					
Proposition 2 Strategic	X	X	X	X	X	X	X
Tactical Process		X					
Project	X	X					
Knowledge Nurture	X	X					X
Proposition 2 Launched	X	X					X
Developing	X	X					
Mature	X						
Dissolved	Inconclusive						

The following chapter concludes the report and introduces topics for further research.

7 Chapter Sev

In this chapter, the conclusion will be presented in terms of the three propositions posed, recommendations for supporting the critical success factors will be identified, and suggestions for further research will be made.

7.1 Propositions posed in the research

7.1.1 Proposition 1

Proposition 1 stated - Critical success factors for communities of practice exist and can be identified within the context of Anglo American. It was found that critical success factors for communities of practice in the Anglo American Corporation can be identified. Overall, the critical success factors found were quality content and user-friendly technology.

7.1.2 Proposition 2

Proposition 2 stated - The critical success factors vary depending on the type of community. The results showed that critical success factors do vary for the type of community of practice. The only factor to be consistently considered a critical success factor for all four types of community was user-friendly technology.

The strategic communities were found to have the most factors which were seen as critical for success. In addition to quality content and user-friendly technology, the factors found were leadership support, facilitator, clear goals, sponsor and leader.

The tactical commun he data set and only one critical success factor was identified, namely user-friendly technology. Rumizen (2002) notes that key activities in tactical communities include the mapping of processes, comparing and optimising processes, identification of best practices, and benchmarking. The tactical community subset of data was dominated by communities in the developing stage of the life cycle, indicating that quality content, although important, was not regarded as critical.

The project communities of practice followed the overall trend of finding quality content and user-friendly technology as the two critical success factors.

The presence of a leader was found to be a critical success factor in addition to quality content and user-friendly technology for the knowledge nurture communities. These communities require sustainability and therefore the requirement for leadership can be understood.

Therefore, although one critical success factor, user-friendly technology, was common to all types of community, the sets of critical success factors for the different community types do vary.

7.1.3 Proposition 3

Proposition 3 stated - The critical success factors vary depending on the position in the life cycle of the community.

The research found that critical success factors vary for communities in different stages of the life cycle in the Anglo American Corporation. The critical factor consistent for all the stages in the life cycle was found to be quality content.

Communities on the launched phase required user-friendly technology and a leader in addition to quality content. Wenger *et al.* (2002) note that in the early stages of the community development, compelling leadership is key to prevent it from failing early on.

Developing communities matched the overall consensus found in proposition 1, that there were only two critical success factors, namely quality content and user-friendly technology. This outcome is understandable as this subset represented 62 per cent of the total set.

Mature communities only found quality content to be a critical success factor.

The data set available for dissolved communities was too small for the results to be conclusive.

Therefore, for launched, developing and mature communities, the critical success factors were found to vary by stage in the life cycle.

7.2 Recommenda

This subsection gives some recommendations on how to support the critical success factors identified in the various propositions.

Quality Content

The following processes and roles are necessary to ensure high quality content:

- Content owners for the community areas
- Rating of content by those in the communities
- Content updating or archiving included in the role of the facilitator

As quality content was found to be a high priority, the above roles are highly recommended to support communities of practice.

User-friendly Technology

In order to support user-friendliness of the technology in the Anglo American Corporation on an ongoing basis, the following components should be considered:

- Consistent and acceptable accessibility to the global network
- Help /Service desk capability to support collaborative tools and users
- Regular training on the tools as well as refresher courses on an ongoing basis
- Availability of the collaborative tools and training materials in language of the user

Within the organisatio 

e, and even though user-friendliness has improved with time, this critical success factor should always be given a high priority.

Leader

The presence of a leader was seen as critical by strategic and knowledge nurture communities, as well as those communities in the launched phase of the life cycle. It is recommended that the role of the leader includes:

- Communicating a clear and compelling vision for the community of practice
- Custodianship for the goals of the community
- Communicating with the sponsor and/or senior executives on the goals, achievements and requirements of the community

A further recommendation is that workshops be conducted to coach leaders on their roles in the Anglo American Corporation.

Facilitator

The training materials and training workshops for this role have been developed and implemented in Anglo American Corporation at the time of writing this report. It is recommended that a network of facilitators be encouraged in order for them to share experiences and support one another.

Line management support can be elicited through demonstrating the value of communities of practice to all areas of the Anglo American Corporation. Knowledge sharing needs to be seen as adding to the goals of the business unit in order for line management to support the process. This factor is linked to the presence of strategic alignment, and this was seen as critical for the strategic communities. It is recommended that the capturing of success stories and value mapping be included in the support infrastructure for communities of practice, to strengthen the view that knowledge sharing is strategically aligned and that value is added to the organisation.

7.3 Suggestions for further research

This subsection contains recommendations for further research in the area of knowledge management ad communities of practice. These suggestions are:

- The impact of the availability of collaborative tools in the user's first language on the extent of collaboration
- The organisational cultural characteristics which encourage and discourage knowledge sharing
- The development of measurement methods to determine the value of communities of practice

In conclusion, critica  ntified for communities of practice in the Anglo American Corporation, as well as determining that they vary according to the type and stage in the life cycle of the community.

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9 Appendix 1 I  ation

This Appendix contains the information collected during the literature review on the different critical success factors identified. The table A1 below outlines the various references and the generic types of potential success factor categories:

Table A1

Potential Success factor	Generic Type	Reference
Up to date Community Mission and Charter	Clear goals with measurement	APQC (2001)
Monitoring of community progress against measures	Clear goals with measurement	APQC (2001)
Annual assessment of community progress and contribution to the business	Clear goals with measurement	APQC (2001)
Dynamic core group	Dynamic core group	APQC (2001)
People resources	Dynamic core group	APQC (2001)
Regular care and feeding	Facilitation	APQC (2001)
Active facilitator to keep content and activities relevant	Facilitation	APQC (2001)
Facilitation	Facilitation	APQC (2001)
Annual health assessments	Facilitation	APQC (2001)
Valuable members	High quality members	APQC (2001)
Visible emphasis on people	High quality members	APQC (2001)
Strong leadership	Leadership	APQC (2001)
Leadership transitions for different maturity phases	Leadership	APQC (2001)
Line management supports time spent on community activities	Line management support	APQC (2001)
Time	Line management support	APQC (2001)
Taking action on lessons learned	Participation	APQC (2001)
Collaboration across community boundaries	Participation	APQC (2001)
Communication to community members to retain their participation	Promotion	APQC (2001)
Intentional marketing of community	Promotion	APQC (2001)

Excellent content		APQC (2001)
Easy to follow knowledge sha		APQC (2001)
Strong community sponsorship	Sponsorship	APQC (2001)
Strategic alignment	Strategic alignments	APQC (2001)
IT support	Technology enablers	APQC (2001)
Personal alignment	Value for members	APQC (2001)
Clear compelling business value proposition	Clear goals with measurement	Gamble (2002)
Assigned role for knowledge capture and documentation	Facilitation	Gamble (2002)
Facilitator	Facilitation	Gamble (2002)
Active and involved leadership	Leadership	Gamble (2002)
Line management recognises the value of community activities	Line management support	Gamble (2002)
Activities that demonstrate learning	Participation	Gamble (2002)
Dialogue	Participation	Gamble (2002)
Knowledge sharing tools	Technology enablers	Gamble (2002)
Community health measurement	Facilitation	Gupta and Sharma (2003)
Knowledge sharing part of company culture	Line management support	Gupta and Sharma (2003)
Communication strategy to promote the community to outside stakeholders	Promotion	Gupta and Sharma (2003)
Clear roles and responsibilities	Clear goals with measurement	Hildreth (2003)
Thought leader involvement	High quality members	Hildreth (2003)
Skilled dedicated leader	Leadership	Hildreth (2003)
Tacit knowledge sharing	Participation	Hildreth (2003)
Senior sponsor	Sponsorship	Hildreth (2003)
Knowledge work integrated into roles	Line management support	Hildreth and Kimble (2004)
Community activities recognised in performance measurement	Line management support	Malhotra (2000)
Promotion of the community to engage new members	Promotion	Malhotra (2000)
Funding	Sponsorship	Malhotra (2000)
User-friendly technology	Technology enablers	Malhotra (2000)

Core group	roup	McDermott (2000)
Champions	roup	McDermott (2000)
Conflict resolution	Facilitation	McDermott (2000)
Experts	High quality members	McDermott (2000)
Leadership transitions for different maturity phases	Leadership	McDermott (2000)
Knowledge sharing based performance appraisals	Line management support	McDermott (2000)
Participation	Participation	McDermott (2000)
Face to face	Participation	McDermott (2000)
Celebrate successes	Promotion	McDermott (2000)
Recognition	Promotion	McDermott (2000)
Sponsorship	Sponsorship	McDermott (2000)
Knowledge sharing systems	Technology enablers	McDermott (2000)
Trust	Trust	McDermott (2000)
Personal relationships	Value for members	McDermott (2000)

10 Appendix 2 - nerican Corporation

Anglo American plc was formed in May 1999 through the combination of Anglo American Corporation of South Africa (AACSA) and Minorco. It has its primary listing on the London Stock Exchange and is majority owned by UK institutions.

Anglo American Corporation was founded in 1917 by Sir Ernest Oppenheimer to exploit the gold mining potential of the East Rand. The company was started with authorised capital of £1 million, chiefly raised from UK and US sources hence the company name. Under Sir Ernest's leadership, Anglo American forged ahead with significant gold mining developments in the 1920s and 1930s. In 1926, Anglo American became the largest single shareholder in De Beers, of which Sir Ernest Oppenheimer became chairman in 1929. In 1928, Anglo American first became involved in developing what is now known as the Zambian copper belt. In the same year, Anglo American also began negotiations with Hans Merensky, who discovered the eponymous reef of platinum group ores that today make South Africa the world's largest producer of platinum.

The consequent growth during the 1920s and 1930s, allowed Anglo American to play a crucial role in the establishment of industrial operations like AECI (African Explosives and Chemical Industries) in which the company sold its majority stake in 2001, and Boart Products, which developed new techniques using industrial diamonds in drilling equipment for gold mining. Further, it helped provide the necessary resources for Anglo American to make acquisitions. One such

acquisition saw the co  , with new subsidiary Coal Estates.

During the late 1940s and 1950s, Anglo American's principal energies were directed at the development of the Free State goldfields and the Vaal Reefs mine, whose five major mines were developed simultaneously in a commitment of enormous proportions. The success of these mines catapulted the Company to the forefront of the international mining industry and the experience gave it the confidence to develop Western Deep Levels (opened in 1957) in which gold was mined at twice the depth previously recorded. In 1957, Sir Ernest Oppenheimer died and was succeeded by his son and Opposition Member of Parliament, Harry Oppenheimer.

The acquisition in 1961 of an interest in the Hudson Bay Mining and Smelting Company in Canada marked the first major Anglo American investment outside southern Africa. This was followed up in the early 1970s with the acquisition of Latin American assets and of the founding of the Minerals and Resources Corporation (later Minorco).

In the mid 1960s the Group's increasing array of industrial assets were consolidated into the Anglo American Industrial Corporation (amic) and by the Company's entry to the steel industry through the acquisition of Scaw Metals and the development of the innovative Highveld Process for producing steel.

In 1967 Anglo Ameri entry into the timber, pulp and paper industry initially in South Africa where, post 1984, it became one of the two major players and, subsequently, in the European packaging sector.

In 1969/70 the Group saw the nationalisation of its copper mines in Zambia.

By 1975, Anglo American had developed a portfolio of eight coal mines in South Africa which were consolidated as Amcoal (later Anglo Coal). The Company was also one of the key shareholders in the development of the Richards Bay Coal Terminal, which enabled South Africa to become a major coal exporter.

From the time that the National Party took power in 1948, the Company enjoyed an uneasy, and often adversarial, relationship with the South African Government. The Oppenheimer family were prominent in and leading founders of, opposition parties and Anglo became a major supporter of black education projects. In 1981, the Company became the first mining house to encourage the recognition of black trades unions.

Harry Oppenheimer retired as Chairman of Anglo American and De Beers at the end of 1982 and 1984 respectively, and was succeeded by Gavin Relly and Julian Ogilvie Thompson (who in 1990 became Chairman of Anglo American). In 1985, much to the anger of the South African Government, Gavin Relly led a delegation of businessmen to meet the ANC leadership in Lusaka. A role which was mirrored in the involvement of several leading Anglo American figures in assisting in the delicate process of transition to a non-racial democracy.

In 1993, the Group carried out a major reorganisation of its assets with Anglo American holding assets in Africa, and Minorco interests in other parts of the world.

Henceforth the pace of international development began to gather speed with the Mantoverde copper mine in Chile coming on stream in 1995; the Sadiola Hill gold mine in Mali starting production in 1996; the acquisition of the Group's first coal assets in Latin America; the start of construction of nickel and zinc mines in Venezuela and Ireland respectively in 1997; and the opening of the massive Collahuasi copper mine in Chile (of which Anglo American owns 44%) in 1999.

Back in South Africa, in 1996 the Group completed the biggest black empowerment deals in South African corporate history through the sale of interests in Johnnic and JCI to the National Empowerment Consortium and the African Mining Group.

In 1998, following a major strategic review, Anglo American announced that it would combine with Luxembourg headquartered, Minorco, to form Anglo American plc with its primary listing in London. This was in order to provide a better base for international expansion and from which to access capital markets.

The process of transferring the primary listing to London was the culmination of a frenetic period of restructuring including unraveling many of the cross holdings which had previously characterised many leading South African companies; the

buying out of minorit erican subsidiaries; and a separation of administrative and technical functions from De Beers. The new company was listed in London, Johannesburg and Switzerland on 24 May 1999.

In the period since the listing, Anglo American plc has been active in disposing of 'non core' assets (principally most of its industrial and financial services interests) raising some US$9 billion in the process and acquiring some US$15 billion of new 'core' businesses. The major transactions have included:

the acquisition of Tarmac plc, to establish Anglo American as the leading player in the UK aggregates market and no.2 in ready-mixed cement;

the strengthening of Mondi's European paper and packaging interests inter alia through Frantschach and the acquisition of Assi Domain's paper sacks business and the acquisition of a controlling interest in the Russian Syktyvkar Forest Enterprise business.

the acquisition of Shell's Coal interests in Australia and Venezuela and the subsequent purchase of a one third interest in Colombia's largest coal mine, Cerrejon Norte;

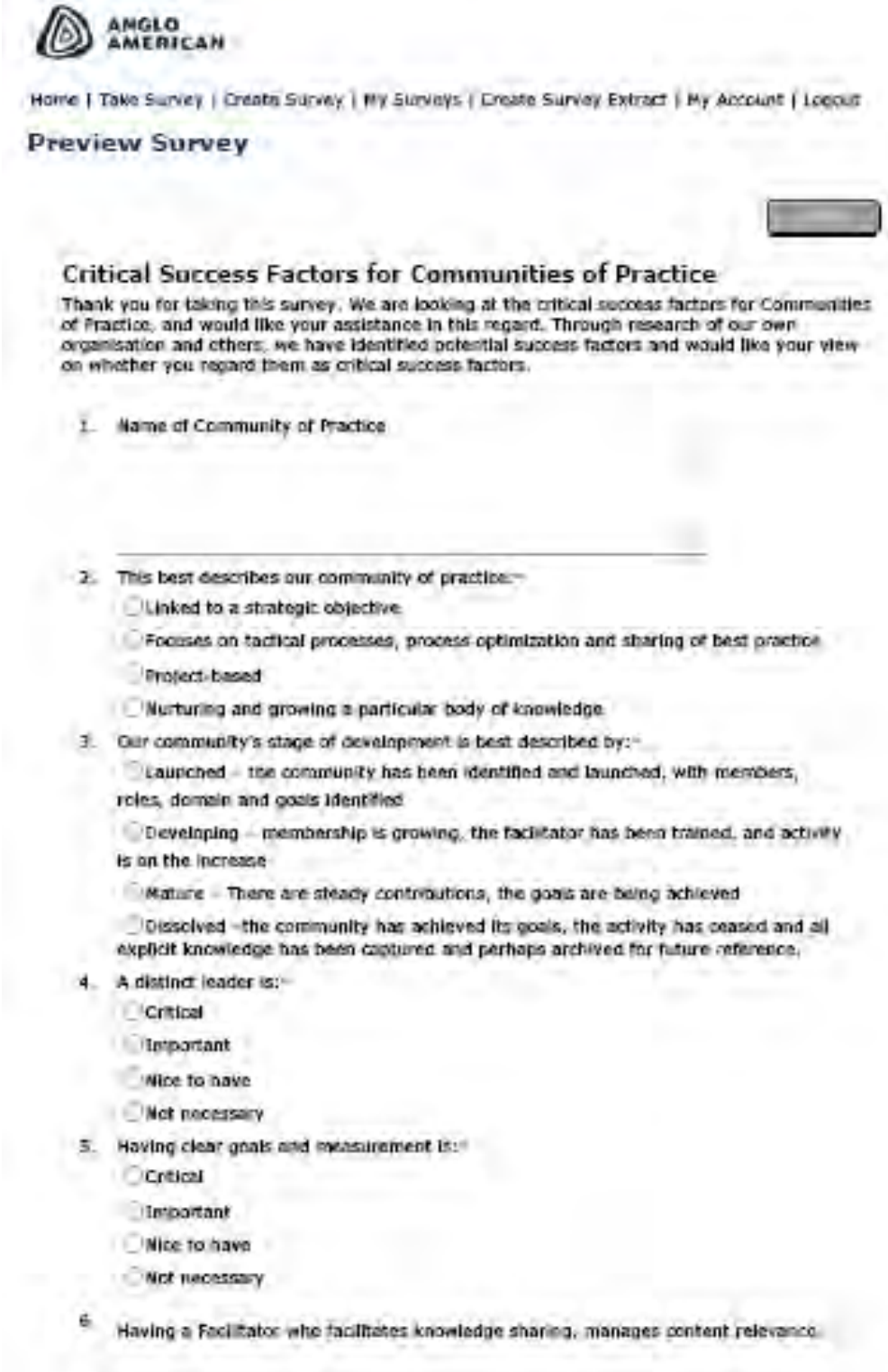
the unravelling of the cross-holding between Anglo American and De Beers which had previously owned 32.5% and 35% of each other respectively. Through a highly complex transaction in 2001, Anglo American, as part of a consortium also including the Oppenheimer family and the Government of Botswana, purchased and delisted De Beers. De Beers' holding in Anglo American was distributed to its

shareholders and Ang  to 45%. The Oppenheimer family hold a contract for the management of De Beers; and

the acquisition of Disputada (renamed Minera Sur Andes) a large, low-cost copper producer in Chile, for a net consideration of $1.3 billion which secures Anglo American's position as a leading global, low cost producer of copper.

delivery on the Company's strategic objective of entry into the iron ore sector with the acquisition of a 67% stake in Kumba Resources Limited.

11 Appendix 3 - UNIVERSITEIT VAN PRETORIA UNIVERSITY OF PRETORIA YUNIBESITHI YA PRETORIA ırvey tool



ANGLO AMERICAN

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Preview Survey

Critical Success Factors for Communities of Practice

Thank you for taking this survey. We are looking at the critical success factors for Communities of Practice, and would like your assistance in this regard. Through research of our own organisation and others, we have identified potential success factors and would like your view on whether you regard them as critical success factors.

1. Name of Community of Practice

2. This best describes our community of practice:*
   - Linked to a strategic objective
   - Focuses on tactical processes, process optimization and sharing of best practice
   - Project-based
   - Nurturing and growing a particular body of knowledge
3. Our community's stage of development is best described by:*
   - Launched – the community has been identified and launched, with members, roles, domain and goals identified
   - Developing – membership is growing, the facilitator has been trained, and activity is on the increase
   - Mature – There are steady contributions, the goals are being achieved
   - Dissolved –the community has achieved its goals, the activity has ceased and all explicit knowledge has been captured and perhaps archived for future reference.
4. A distinct leader is:*
   - Critical
   - Important
   - Nice to have
   - Not necessary
5. Having clear goals and measurement is:*
   - Critical
   - Important
   - Nice to have
   - Not necessary
6. Having a Facilitator who facilitates knowledge sharing, manages content relevance

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YUNIBESITHI YA PRETORIA

Invites new membe
-- Please Select --

7. Valuable members and thought-leaders are:*
   - Critical
   - Important
   - Nice to have
   - Not necessary
8. A Dynamic Core Group(a group of 3 to 5 people who add most of the value to the community, who are the Champions of the topic) is:*
   - Critical
   - Important
   - Nice to have
   - Not necessary
9. Line Management Support is:*
   - Critical
   - Important
   - Nice to have
   - Not necessary
10. Participation by the members in the community is:*
    - Critical
    - Important
    - Nice to have
    - Not necessary
11. Promotion of the community, its activities and contribution to the business is:*
    - Critical
    - Important
    - Nice to have
    - Not necessary
12. Quality content and explicit knowledge sharing is:*
    - Critical
    - Important
    - Nice to have
    - Not necessary
13. High level sponsorship is:*
    - Critical
    - Important
    - Nice to have
    - Not necessary
14. Strategic alignment is:* *
    - Critical

- ◯ Important
- ◯ Nice to have
- ◯ Not necessary

15. User friendly technology is:*
    - ◯ Critical
    - ◯ Important
    - ◯ Nice to have
    - ◯ Not necessary
16. Trust in the members of the community is: *
    - ◯ Critical
    - ◯ Important
    - ◯ Nice to have
    - ◯ Not necessary
17. Personal value for the community members is:*
    - ◯ Critical
    - ◯ Important
    - ◯ Nice to have
    - ◯ Not necessary
18. Please give us feedback not included in the questions:

OK

Anglo American plc

12 Appendix 4 - Chapter 5

Proposition 1 - Critical success factors for communities of practice can be identified in the context of the Anglo American Corporation

The numerically statistical results have been converted back to the Lickert Scale descriptors for the discussion of the results. To reiterate, the mode values of the data were used as this indicates the most popular answer, Average values were used to determine whether there is a difference within a group within the same mode (for sorting purposes), and the fiftieth percentile was used to see where the majority of the responses lay. The standard deviation gives an indication as to what extent the respondent population are in agreement. The table shows the summarised analysis for the whole data set:

Table A4.1

Potential Success Factor	Mode	50th Percentile	Standard Deviation
User-friendly Technology	Critical	Critical	Acceptable
Quality Content	Critical	Critical	Acceptable
Line Management Support	Important	Important	Acceptable
Facilitator	Important	Important	Acceptable
Participation	Important	Important	Acceptable
Trust	Important	Important	Acceptable
Strategic Alignment	Important	Important	Acceptable
Quality Members	Important	Important	Acceptable
Core Group	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Promotion of the Community	Important	Important	Acceptable
Clear Goals	Important	Important	Fairly high
Leader	Important	Important	Fairly high
Sponsor	Important	Important	Fairly high

Proposition 2 - Cı ›mmunities of practice vary with the type of community

Strategic Communities

Table A4.2

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Low
User-friendly Technology	Critical	Critical	Acceptable
Line Management Support	Critical	Critical	Acceptable
Facilitator	Critical	Critical	Acceptable
Clear Goals	Critical	Critical	Acceptable
Sponsor	Critical	Critical	Fairly high
Leader	Critical	Important	Fairly high
Strategic Alignment	Critical/Important	Important	Acceptable
Participation	Important	Important	Acceptable
Trust	Important	Important	Acceptable
Quality Members	Important	Important	Acceptable
Core Group	Important	Important	Fairly high
Personal Value	Important	Important	Acceptable
Promotion of the Community	Important	Important	Acceptable

Table A4.3

Potential Success Factor	Mode	50th Percentile	Standard Deviation
User-friendly Technology	Critical	Critical	Acceptable
Quality Content	Important	Important	Acceptable
Line Management Support	Important	Important	Acceptable
Facilitator	Important	Important	Acceptable
Participation	Important	Important	Acceptable
Trust	Important	Important	Acceptable
Strategic Alignment	Important	Important	Acceptable
Quality Members	Important	Important	Acceptable
Core Group	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Promotion of the Community	Important	Important	Acceptable
Clear Goals	Important	Important	Fairly high
Leader	Important	Important	Fairly high
Sponsor	Important	Important	Fairly high

Table A4.4

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Acceptable
User-friendly Technology	Critical	Critical	Acceptable
Participation	Important	Important	Acceptable
Facilitator	Important	Important	Acceptable
Core Group	Important	Important	Acceptable
Strategic Alignment	Important	Important	Acceptable
Line Management Support	Important	Important	Fairly high
Trust	Important	Important	Acceptable
Quality Members	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Promotion of the Community	Important	Important	Fairly high
Clear Goals	Important	Important	Acceptable
Leader	Important	Important	High
Sponsor	Important	Important	High

Table A4.5

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Acceptable
User-friendly Technology	Critical	Critical	Acceptable
Leader	Critical	Critical	Acceptable
Line Management Support	Important	Important	Acceptable
Promotion of the Community	Important	Important	Acceptable
Participation	Important	Important	Acceptable
Core Group	Important	Important	Acceptable
Trust	Important	Important	Low
Strategic Alignment	Important	Important	Acceptable
Facilitator	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Clear Goals	Important	Important	Fairly high
Quality Members	Important	Important	Acceptable
Sponsor	Important	Important	Fairly high

Proposition 3 - Cı ›mmunities of practice vary with the stage in the life cycle.

Communities in the Launched Phase

Table A4.6

Potential Success Factor	Mode	50th Percentile	Standard Deviation
User-friendly Technology	Critical	Critical	Low
Quality Content	Critical	Critical	Acceptable
Leader	Critical	Critical	High
Quality Members	Important	Important	Acceptable
Core Group	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Participation	Important	Important	Acceptable
Promotion of the Community	Important	Important	Acceptable
Line Management Support	Important	Important	Fairly high
Clear Goals	Important	Important	Fairly high
Strategic Alignment	Important	Important	Acceptable
Facilitator	Important	Important	Fairly high
Trust	Important	Important	Acceptable
Sponsor	Important	Important	Fairly high

Table A4.7

Potential Success Factor	Mode	50th Percentile	Standard Deviation
User-friendly Technology	Critical	Critical	Acceptable
Quality Content	Critical	Critical	Acceptable
Facilitator	Important	Important	Acceptable
Line Management Support	Important	Important	Acceptable
Trust	Important	Important	Acceptable
Participation	Important	Important	Acceptable
Clear Goals	Important	Important	Acceptable
Promotion of the Community	Important	Important	Acceptable
Strategic Alignment	Important	Important	Acceptable
Core Group	Important	Important	Acceptable
Leader	Important	Important	Acceptable
Quality Members	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Sponsor	Important	Important	Fairly high

Table A4.8

Potential Success Factor	Mode	50th Percentile	Standard Deviation
Quality Content	Critical	Critical	Acceptable
User-friendly Technology	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Trust	Important	Important	Acceptable
Strategic Alignment	Important	Important	Acceptable
Quality Members	Important	Important	Acceptable
Participation	Important	Important	Acceptable
Line Management Support	Important	Important	Acceptable
Facilitator	Important	Important	Acceptable
Core Group	Important	Important	Acceptable
Sponsor	Important	Important	Acceptable
Promotion of the Community	Important	Important	Fairly high
Leader	Important	Important	High
Clear Goals	Important	Important	High

Dissolved Communities

Table A4.9

Potential Success Factor	Mode	50th Percentile	Standard Deviation
User-friendly Technology	Critical	Critical	Acceptable
Quality Content	Critical	Critical	Acceptable
Line Management Support	Critical	Critical	Acceptable
Trust	Critical	Critical	Acceptable
Core Group	Critical	Critical	Acceptable
Leader	Critical	Critical	Acceptable
Facilitator	Important	Important	Acceptable
Strategic Alignment	Important	Important	Acceptable
Personal Value	Important	Important	Acceptable
Sponsor	Important	Important	Acceptable
Quality Members	None	Important	High
Promotion of the Community	Important	Important	None
Clear Goals	None	Important	High
Participation	Important	Important	Acceptable