


**COMMUNITIES OF PRACTICE
AS A NATIONAL SKILLS DEVELOPMENT STRATEGY**

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*And between your knowledge and your understanding,
there is a secret path.*
Kahlil Gibran

DECLARATION

I, the undersigned, hereby declare that the work contained in this assignment is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Date: **November 2003**

ABSTRACT

COMMUNITIES OF PRACTICE AS A NATIONAL SKILLS DEVELOPMENT STRATEGY

The South African society and economy are characterised by a duality - one is highly developed and able to participate in the global Knowledge Economy; the other, largely focused on subsistence with no access to the “infostructure” and opportunities of the Information Age. At the root of this duality is the disparity in skills between the developed and developing sectors of our society. While skills development is required in the developing sector along with other measures to address the “digital divide”, skills retention through the transfer and sharing of knowledge is required in the developed sector where various factors are causing a flight of skills from South Africa. These disparate objectives further exacerbate the unequal distribution of skills, knowledge, opportunities, and income and increase the chasm between “the two economies”, negating any participation by South Africa in the global Knowledge Economy.

Communities of Practice, as a proven and mature knowledge management strategy, is proposed as an appropriate method whereby skills development and knowledge transfer can take place in South African organisations and it is proposed that the National Skills Development Strategy recognises communities of practice as a core element.

Individual and organisational learning in terms of skills development and knowledge transfer as well as the nature, support, structure, and value of communities of practice are conceptualised and described to provide a broad understanding of and illustrate the contribution that that communities could make to South Africa’s ability to participate in the Knowledge Economy and closing the divide between our “two economies”.

OPSOMMING

KENNISGEMEENSAPPE AS 'N NASIONALE VAARDIGHEIDS ONTWIKKELING STRATEGIE

Die Suid Afrikaanse samelewing en ekonomie word gekenmerk deur 'n dualiteit - een sektor is hoogs ontwikkel en neem deel aan die globale Kennis Ekonomie; die ander is hoofsaaklik gefokus op oorlewing met geen toegang tot die inligting infrastruktuur van die Inligtings Era nie. Die ongelykheid in vaardighede tussen die ontwikkelde en ontwikkelende gemeenskappe is die kern van die genoemde dualisme. Die ontwikkelende sektor benodig dat die vaardighede van die breë samelewing ontwikkel word ten einde hulle in staat te stel om deel te neem aan die kennis samelewing. Aan die ander kant is daar 'n behoefte by die ontwikkelde sektor om bestaande kennis oor te dra en te deel ten einde die aaneenlopende verlies aan kennis en vaardighede te bekamp.

Kennissameenskappe as 'n bewese kennisbestuur strategie, word voorgestel as 'n gepaste metode waardeur die ontwikkeling van vaardighede en die oordrag van kennis kan plaasvind binne Suid Afrikaanse organisasies en dit word aanbeveel dat kennissameenskappe erken word as 'n kern element van die Nasionale Vaardigheids Ontwikkeling Strategie.

Individuele en organisatoriese kennis inname/bestuur in terme van vaardigheidsontwikkeling en kennis oordrag asook die aard, struktuur, ondersteuning en waarde van kennissameenskappe word bespreek. Dit word gedoen ten einde 'n breë begrip daar te stel van die aard en inhoud van, en die bydrae wat kennissameenskappe kan maak tot Suid Afrika se deelname aan die Kennis Ekonomie te illustreer. Dit word gestel dat kennissameenskappe kan bydra om die dispariteit tussen die twee ekonomieë in Suid Afrika aan te spreek.

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ABBREVIATIONS & DESCRIPTIONS USED

“APQC” - American Productivity and Quality Centre

“Communities”/“CoPs” - Communities of Practice

For the sake of brevity and ease of reading, the term “communities” will be used interchangeably with “communities of practice” where appropriate in the text.

KEY WORDS

Communities of Practice; Learning; Skills Development; Knowledge Management

CHAPTER 1 INTRODUCTION, PROBLEM STATEMENT AND OBJECTIVES OF THE STUDY

The next society will be a knowledge society. Knowledge will be its key resource and knowledge workers will be the dominant group in its workforce and economy.
Peter Drucker

1.1 BACKGROUND

“Two economies in one country. The first is an advanced, sophisticated economy, based on skilled labour, which is becoming more globally competitive. The second is a mainly informal, marginalised, unskilled economy, populated by the employed and those unemployable in the formal sector” (Two economies ..., 2003).

This is the bottom-line conclusion of research undertaken by the President’s office titled *Towards a Ten Year Review*, which sought to articulate the performance of the State ten years into South Africa’s democracy. The report warns that “despite the impressive gains made in the first economy, the benefits of growth have yet to reach the second economy, and with the enormity of the challenges arising from social transition, the second economy risks falling further behind if there is no decisive government intervention”. In an article published in the Mail & Guardian Online of 4 November 2003, President Mbeki, during a speech at the Black Management Forum, likened the “two economies” in the country to a double-storey house “without a connecting staircase” (Two economies ..., 2003).

According to Drucker, we are entering a knowledge society in which the basic economic resource is no longer capital, or natural resources, but is and will be knowledge and where knowledge workers will play a central role. “Value is now created by productivity and innovation, both applications of knowledge to work. The leading social groups of the knowledge society will be knowledge workers” (Drucker, 1993:8).

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And skills and knowledge (either the lack or the skewed distribution thereof) are central to and also one of the major distinguishing factors between the “two economies” in South Africa. Addressing Parliament during the Medium Term Budget Policy Statement on 25 November 2003, the Minister of Finance commented “that South Africa's lack of skills was acting as a brake on economic growth and would do so for a long time to come” (Finance24).

The knowledge era is providing opportunities to reframe our thinking about how organisations work - what they value, what their assets look like, and how they create the capabilities needed for effective performance to stay ahead as opposed to lagging behind the curve of rapidly changing market demands (Saint-Onge & Wallace, 2003:3).

Wenger and Snyder (2000:139) states that “today's economy runs on knowledge, and most companies work assiduously to capitalise on that fact”, making the sharing of knowledge a core and critical element within organisations and a *sine qua non* for any country hoping to actively participate in the knowledge economy. A growing body of research literature in the social sciences bear testimony to the impact that the advent of the knowledge economy had on approaches to the management of organisations during the past to decades.

“Observation of the South African business environment seems to indicate a growing awareness and adoption of knowledge-based strategies and knowledge management practices” (Botha & Fouché, 2002:13). South Africa is however faced with its own special needs insofar the building of capacity to participate in the knowledge economy is concerned. A variety of factors – both historical and current – has caused and continue to cause a distinct skills deficit in the South African workforce.

Broadly stated, the duality of the South African economy requires that the management of knowledge resources in each of the economic sectors meet different, but related objectives. In the formal sector, the emphasis is on knowledge transfer to retain and manage scarce

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knowledge resources, encourage innovation and improve skills in terms of employment equity while in the informal sector it is the acquisition of knowledge through the development of skills and the consequent economic and social empowerment of individuals.

In both instances, learning is the common denominator and perhaps the “connecting staircase between the two economies” that the President referred to in his speech. To this end, the government has initiated a broad-based programme of learning grounded in a National Skills Development Strategy. The question is to what extent a developing country like South Africa with its dual economy could benefit from the emulation of the knowledge management strategies, practices and technologies developed in the industrialised world to develop the skills and knowledge resources available to South African organisations and the economy as a whole.

The American Productivity and Quality Centre (2002e:2) describes communities of practice as “networks of people - small and large - who come together to share ideas with and learn from one another in physical and virtual space. A common purpose or mission holds these communities of practice, of interest, and of learning together. They are sustained by a desire to share experiences, insights, and best practices”.

It is asserted that communities of practice present South Africa with a “do-able” knowledge management strategy and process in order to facilitate the broad-based learning required for both for the development of skills and the transfer of knowledge as part of its National Skills Development Strategy. In fact, if one considers the particular circumstances in South Africa where the unequal distribution of wealth and opportunity has led to social and economic inequality, the management of the country’s knowledge resources has become a matter of strategic importance for the country as a whole. In the final analysis South Africa has to become “a learning country” if it is to overcome its skills deficit and realise its full potential as participant in the knowledge economy.

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The objective of this study is to explore and discuss the role that communities of practice could play as part of a National Skills Development Strategy in the context of the skills development and knowledge transfer that are required to bring about a convergence and eventual amalgamation between the two economies (and societies) in South Africa so that the country can actively participate as a whole in the knowledge economy.

1.2 PROBLEM STATEMENT

For the knowledge economy organisation, the challenge lies in identifying the tools and mechanisms that will both support the creation of skills and stretch the capabilities and talents of the employee. This is in the belief that the knowledge era employee is the building block that will ensure the long-term sustainability of the organisation (Van Deventer, 2002:1.2).

Organisations require a practical and proven knowledge management strategy and process to manage knowledge resources for continuous improvement, innovation and ultimately competitive advantage. Similarly, the general skills level of the broader South African population needs to be improved through skills development to sustain empowerment and equity imperatives and in so doing, create the employment opportunities that will address the unequal income distribution that lies at the heart of the dual economy.

The question is therefore posed whether and to what extent communities of practice can serve as part of a National Skills Development Strategy to facilitate and support the learning that is required to meet the skills development and knowledge transfer imperatives in South Africa.

1.3 PURPOSE OF THE RESEARCH

Judging from the lack of subject coverage in the popular business press, knowledge management and then specifically communities of practice as its potentially most visible component, does not appear to currently form an integral part of the general management lexicon in South African businesses.

The dual nature of the South African economy results in increasing social and economic inequality and it is suggested that an increased level of skills development and knowledge transfer could play a significant role in reversing this trend. Organisations in the formal sector are the current custodians of the knowledge resources required for active participation in the global knowledge economy but they face difficulties creating and sustaining an environment and the processes that enable and encourage knowledge sharing and innovation. At the same time a large section of the population is deemed as “unemployable in the formal sector” because of a skills deficit. A practical and intuitively appealing process is required to facilitate the learning that that skills development and knowledge transfer entail.

The primary research objective is therefore to explore and describe the potential role of communities of practice to facilitate knowledge transfer and skills development as part of the National Skills Development Strategy in order to bridge the “skills deficit” and bring about a greater degree of social and economic equality.

South African organisations in both the private and public sectors charged with skills development in particular, and those considering knowledge management initiatives in general, will benefit from the research through a shared understanding of the role that integrated communities of practice can play in the development and management of knowledge resources. As a result, the country as a whole could benefit if communities of practice are accepted and implemented as one of the core elements of the National Skills

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Development Strategy and in so doing contribute to the convergence of the dual economies described above, into a homogeneous entity with social and economic equality based on knowledge. South Africa could become “a learning country”.

1.4 SPECIFIC GOALS OF THIS STUDY

The objective of the study is to describe whether and to what extent communities of practice can encourage learning as part of a National Skills Development Strategy to meet the skills and knowledge imperatives in South Africa.

Various literature sources will be used to explore the -

- importance of individual and organisational learning with particular reference to the South African skills development imperative,
- the various theories available to organisations to develop skills and effect knowledge sharing and transfer in the workplace,
- the nature, structure, support and enabling conditions for communities of practice, and
- the potential role of communities of practice as part of the National Skills Development Strategy to support and sustain skills development and knowledge transfer.

1.5 RESEARCH METHODOLOGY

The research classification of the study is qualitative. A qualitative classification means to gain or obtain a detailed understanding of the insights of the research dilemma or problems proposed (Cooper & Schindler, 2001:770). Mouton (2001:161-162) describes qualitative research as research where the researcher is concerned with -

- understanding rather than explanation,
- naturalistic observation rather than controlled measurement,

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- focusing on implementation rather than on (quantifiable) outcomes,
- the subjective exploration of an insider opposed to an outsider perspective, and
- fostering improvement and self-determination.

The reasoning is inductive because conclusions are drawn from particular facts or pieces of evidence selected from research previously performed (Cooper & Schindler, 2001:764). Furthermore, the research design is exploratory in nature. Exploratory research means the proposed research undertaken focused on the understanding of the research dilemma in detail by gathering background information (Cooper & Schindler, 2001:762).

In the study, the primary focus will be on secondary data collection methods in that use will be made of handbooks, journals, electronic information, and press articles. The literature was selected according to the following criteria –

- Clarity – whether it is written in a clear and understandable language.
- Holistic – whether it provides a clear and comprehensive context of the subject matter.
- Currency – the most recently available resources as well as several authoritative older texts were consulted.
- Authority of the authors – an Internet search of the subject identified a number of authors who are widely published and cited in the subject matter and it is accepted that this is an indication of their status as authorities in this regard.

For the purpose of this study, internal and external data sources are used and the data analysis method is an individual interpretation of the collected data.

The outcome of the study will be the formulation of hypotheses regarding the potential role of communities of practice in facilitating knowledge transfer and skills development as a core element of the National Skills Development Strategy of the South African government.

1.6 RESTRICTIONS OF THE STUDY

The content of this study is limited by the lack of empirical research. All information contained in this study has been gathered from secondary resources. Any assumption that is made is therefore based only on applicable literature, which could possibly not be applicable in all circumstances within the South African environment.

The process for the implementation of communities is specifically omitted, as the research objective is to link learning and communities and outline the potential of communities as an enhancement of the current National Skills Development Strategy.

1.7 CHAPTER OUTLINE

The study is organised into six chapters. Besides Chapter 1, the report is structured into the following chapters -

Chapter 2 conceptualises individual and organisational learning and provides an overview of the South African National Skills Development Strategy and the skills development and knowledge transfer imperatives contained therein against the background of the global knowledge economy.

The nature, structure, support of and enabling conditions for communities of practice are described in Chapters 3 and 4.

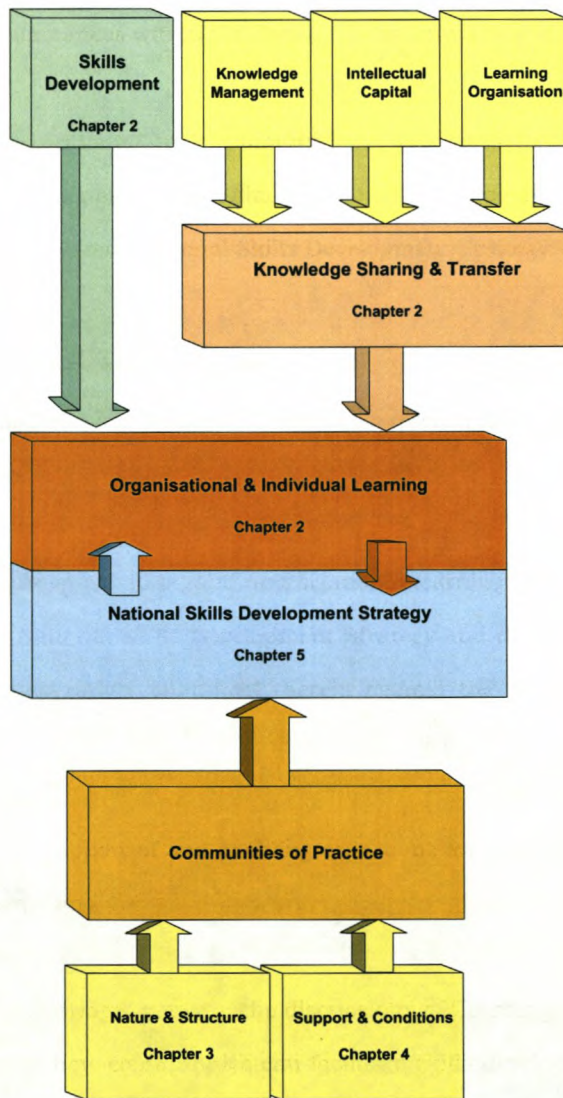
Chapter 5 provides the “bridge” between the discussions of “learning” and “communities of practice” and describes how communities can facilitate skills development and knowledge transfer as a core element of the National Skills Development Strategy.

Finally, chapter 6 will provide a summary of this study. This chapter is concluded with recommendations for future research in this field.

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Figure 1 provides a graphical overview of the framework for and the organisation of the study.

Figure 1: Study Framework



CHAPTER 2

THE SOUTH AFRICAN LEARNING IMPERATIVE

*When the rate of change outside of the company,
exceeds the rate of change inside the company,
the end is near.*
Andy Gróve

2.1 INTRODUCTION

“Creating a workplace where knowledge is shared and where people are encouraged to learn and to take action on those lessons learned is the surest way to compete in a market-driven economy” (Hackett, 2000:14).

There is an emerging re-conceptualisation of institutional change that emphasises learning as the core process in organisational change and where organisations link all their practices towards the learning needs of their workforce. It brings about a new conceptual understanding of learning and of how learning is perceived (Van Dyk *et al.*; 2001:143).

What has become valuable in the work environment of the present belongs to what is known as the knowledge economy, the knowledge era, the knowledge age, the information age, the new economy and the new world. The general interest in the knowledge economy and its associated management philosophies, knowledge management, learning organisations and intellectual capital management, did not start as a whim. It came about as a direct result of the general evolution of the way in which work is valued. The shift from an agricultural economy to an industrial economy (and their associated work value systems) is at present relatively easy to recognise and understand. What is not yet as clear to most, is the impact of the shift from the industrial to the knowledge-focused economy. There is, however, little doubt that the implication will be more intense and have a larger impact than that of any previous evolutionary step.

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The knowledge economy incorporates new dynamics, new rules, and new drivers of innovation (Jordan & Jones, 1997:393). As a result, the managerial challenge is to improve the processes of knowledge acquisition, integration, and utilisation. The only way that is possible, is to understand how knowledge is acquired and harnessed within the modern organisation. Lank (1997:409) states that it is unfortunately not a task that can be given to a person or section of the organisation. To be successful, the knowledge economy requires that true cross-functional teams, which are not led from only one specific function within the organisation, take up the responsibility for their own well-being.

This chapter reflects the result of a literature review to -

- describe the global and South African knowledge economies,
- conceptualise learning and describe the skills development and knowledge transfer imperatives as part of the National Skills Development Strategy in South Africa, and
- provide an overview of the generic resource-based strategies focusing on knowledge management, learning organisations and intellectual capital management.

2.2 THE GLOBAL KNOWLEDGE ECONOMY

Organisations are increasingly implementing knowledge management strategies to detail how to develop and apply the knowledge capabilities required to execute business strategies.

“The field of knowledge management had gone through a first wave of focus on technology. A second wave dealt with issues of behaviour, culture, and tacit knowledge, but mostly in the abstract. A third wave is discovering that communities of practice are a practical way to frame the task of managing knowledge. They provide a concrete organisational infrastructure for realising the dream of a learning organisation” (Wenger *et al.*, 2002:x).

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According to Scott (1992), scholars have recently become more explicit about the role of personal networks in organisation design. "It doesn't make sense to hire smart people and then tell them what to do; we hire smart people so they can tell us what to do". Steve Jobs (chairman of Apple Computers) as quoted in Davenport and Prusak (1998:50).

From this human/social perspective, Davenport and Prusak (1998:50) identify two generic knowledge management strategies -

- "Knowing what you know" - better awareness, sharing and application of existing knowledge, and
- "Faster and better innovation" - more effective conversion of ideas into products and services.

According to Wegner *et al.* (2002:4), a knowledge strategy depends on communities of practice. Skryme (1999) shares this view by stating "... the future organisation is most likely to consist of networks of self-managed teams that rapidly reconfigure to adapt to opportunity and change. Teams, not functions or departments, will become the core productive units within organisations".

Wenger and Snyder (2000:139) state, "today's economy runs on knowledge, and most companies work assiduously to capitalize on this fact, making the sharing of knowledge a core and critical element within an organisation".

The knowledge economy refers to the knowledge work-based economy. The idea of knowledge work has been around for some time. Mintzberg (1983, in Garrick & Clegg, 2000:279) wrote extensively about knowledge intensive companies, outlining differences between knowledge intensive organisations and professional bureaucracies. In essence, this means (according to Shanhong, 2000) that the knowledge economy era is driven by a company's, and in effect an individual's, ability to effectively identify, acquire, develop, resolve, use, store and share knowledge.

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It is also driven by the ability to apply the tasks listed above to create an approach to -

- transform and share both tacit and explicit knowledge,
- raise innovation capability, and
- utilise the combined wisdom of the team.

It is not enough to acknowledge knowledge as an asset. Authors such as Mullen and Willigan (2000) make it clear that successful organisations of the 21st century will not be able to continue to rely only on the old levers of competition - labour, capital, and land - for their success. Rather, they will have to manage these tangible assets along with intellectual assets and intellectual property - patents, trademarks, and technology.

Intellect, knowledge, skills, and experience, in all their variety of guises, have always been at the foundation of business. Recently however the most important visible trend is that employees now are realising the true value of their skills and competencies and are seeking the appropriate acknowledgement and development opportunities. Similarly employers, realising that they no longer are able to control their most important assets, are seeking ways and methods to retain at least part of their investment in those assets. It is actually the first time that an employer has both the competitive incentive to manage intellectual output and/or knowledge as an asset and through the exchange of money for other opportunities, they have the means available to do so (Lank, 1997:406).

With regard to the workplace of the future, the following were among the predictions made by Duffy (in Wiig, 1997b:26) in a 1994 Business Week article -

- no more unconditional lifetime employment,
- professional, managerial, technical and service jobs will gain in number while crafts, operators, labourers and clerical jobs will diminish in number,
- better technology, better processes and fewer but better trained workers,

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- job skills, like businesses, will be ephemeral - employers will assume responsibility for constant re-skilling of employees but the latter will have to assume responsibility for their own careers, and
- younger people will find jobs harder to obtain and keep, will need more skills than today.

In the fast moving knowledge economy the rules guiding customer relations, competition, and the employment relationship change daily. If companies, subsections of companies and indeed individual employees want to survive they must operate as adaptive systems and anticipate change through knowledge management. The main objective of knowledge management is to arrange, orchestrate, and organise an environment in which people are invited and facilitated to apply, develop, share, combine, and consolidate knowledge (Lave, 1998).

The dynamics of the global knowledge economy therefore demand that consideration be given to suitable organisational structures and processes that will allow for the sharing and transfer of knowledge to be responsive to changing market and environmental considerations. The literature already makes the case for the potentially important role that communities of practice could play in establishing a “social contract” that encourages innovation and converts individual tacit knowledge to explicit organisational knowledge within a broader knowledge management strategy.

It is against the milieu of the global knowledge economy, that the state of South African knowledge economy will be described in the following section.

2.3 THE SA KNOWLEDGE ECONOMY

Ten years after democracy was attained in South Africa, the general upliftment of the historically disadvantaged groups in our society through policies such as affirmative action, the transfer of skills and the implementation of outcomes-based education remain a high priority not only in the minds of politicians but also of business in general. It is generally recognised that without learning and education taking place on a grand scale in all strata of the South African population, the country on a macro level cannot achieve the growth that is required to reduce the current systemic 35-37% unemployment rate and achieve the creation of the stable middle-class of citizenry that is a pre-requisite for a stable democracy. On a micro-level, organisations are experiencing higher rates of staff turnover and the loss of skills through a never-ending cycle of organisational “down-sizing”, “right-sizing”, re-engineering and other management initiatives aimed at achieving the maximum possible returns in an economy that is subject to discontinuous change and the realities of increasing globalisation.

The continued inequalities in the distribution of income, affirmative action programmes, AIDS, the much-publicised “brain drain” and the slow emergence of a broad-based black middle-class, pose a threat to our democracy itself and the capacity of country to raise its Gross Domestic Product to a level which would sustain continued wealth creation to meet the increasing social and economic demands of the general populace.

It is against this background that a National Skills Development Strategy was formulated and operationalised through policy instruments such as the Skills Development Act 97 of 1998 with the objective to *inter alia* –

- develop the skills of the South African workforce,
- use the workplace as an active learning environment, to provide employees with the opportunities to acquire more skills, and to provide opportunities for new entrants to the labour market to gain work experience,

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- encourage workers to participate in leadership and other training programmes, and
- to improve the employment prospects of persons previously disadvantaged by unfair discrimination and to redress those disadvantages through training and education.

The race is on to educate, nurture, and retain the “knowledge worker” that Drucker refers to but South Africa has entered the race already handicapped at the start due to its political history. Education and learning are therefore top priorities not only for politicians and educators but also for the private sector with its insatiable demand for highly skilled workers in general and knowledge workers in particular, in order to compete in a world where globalisation and information technology has rendered physical distance irrelevant.

Education, in essence, creates a general basis that prepares the individual for life, without any specific job-related skills being developed. Training by contrast is a planned process to modify attitude, knowledge, or skills behaviour through learning experience, in order to achieve effective performance in an activity or range of activities. The concepts of learning and development therefore guide an individual and prepare him to perform specific activities, as directed by the job he occupies or aspires to (Nel *et al.*, 2001:467). Knowledge is an outcome of learning that in turn is a function of *inter alia* training and experience. For an organisation to survive in a highly competitive and developing market, it is essential to prevent the organisational obsolescence that occurs when staff in a particular position lacks the current skill and knowledge generally considered as vital for the effective performance of work (Nel *et al.*, 2000:468).

Factors such as global competition and the socio-economic challenges to organisations have brought a new dimension to workplace training, learning, and development. The days are gone when organisations could regard the equipping of their workers as a “nice to have” or an add-on activity just because everybody else is doing it. For organisations to survive in a highly competitive marketplace, the decision to invest in the development of

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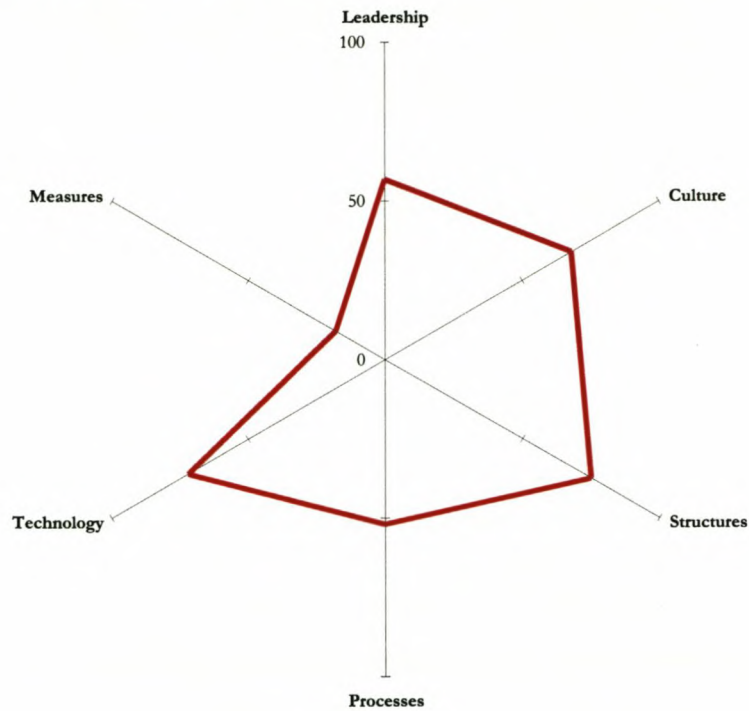
their human resources must be a business decision. To maximise their investment, organisations will have to adopt a strategic training and development approach and, in doing so, move away from the notion that training and development is an activity run by trainers somewhere in a lecture room.

As in the case of industrialised countries in general, observation of the South African business environment seems to indicate a growing awareness and adoption of knowledge-based strategies and knowledge management practices (Botha & Fouché, 2002:13). Figure 2 shows the preliminary aggregated results obtained by Botha and Fouché in the first known survey of the pervasiveness of knowledge management practices in South Africa.

Even though these results are very much provisional results based on a small sample, it is however heartening to note the relatively high score under “structures”. The authors report that 75% of the companies surveyed indicated that they made use of cross-functional, multi-disciplinary project teams, task forces and workgroups to exploit knowledge and that 62% had established external structures in the value chain to collaborate on and exploit knowledge for shared objectives (Botha & Fouché, 2002:17).

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Figure 2: Knowledge Management Practices in SA



Source: Adapted from Botha & Fouché (2002:13-19)

The South African organisation's general pre-occupation with technology is also evident in these results and this has an implication for the management of knowledge resources as any technology implementation, albeit for information and knowledge management or for some operational purpose, requires a high degree of skill and knowledge.

Additional pressure stems from being part of Africa and the need for an organisation to juggle "what-is-good-for-Africa" with "what-is-good-for-business". In South Africa, the challenge is to establish a culture and process of learning through the development of skills and transfer of knowledge, which in turn could serve as the basis for global competitiveness.

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Even though provisional, these results do point towards the need for social structures within organisations that will encourage knowledge sharing and transfer. Already there appears to be acceptance and a high adoption rate for such structures - what is needed now is a proven methodology such as communities of practice to be included into the lexicon and “toolkit” of the South African manager to facilitate the learning required for skills development and knowledge transfer.

2.4 LEARNING

In this section, the term “learning” will be conceptualised and the concepts of the “learning organisation” and “organisational learning” are discussed in more detail.

Introduction

Transformation and change have influenced the workplace in the four areas of environment, workplace, customer, and worker. Organisations are no longer able to respond and handle these new challenges. Francis Bacon cited by Thurbin, said, “If a man will begin with certainties he shall end in doubts, but if he will be content to begin with doubts, he shall end in certainties” (Thurbin 1994). Albert Einstein (Marquardt, 1996) wrote that “no problem can be solved from the same consciousness that created it; we must learn to see the world anew”. New problems must and should not be solved with old structures, mindsets, or knowledge that was part of the organisation in the past (Nel *et al.*, 2001:121).

Organisations need to capture the same forces that have generated the changes and transformations, and systematically synergised them, to develop the subsystems of the learning organisation. It is possible for a learning organisation to harness the full brainpower, knowledge, and experience to make it possible to evolve continually for the benefit of all its stakeholders (Lank, 1994). Organisations must learn faster and adapt to

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rapid change. The need for a culture of learning in organisations has hardly been greater. We have entered the knowledge era and therefore survival in a rapidly changing world depends on adaptability, and adaptability depends on the capability to learn, which is dependent on the motivation for continuous life-long learning of everybody in the organisation. The organisation must provide the support for this continuous and lifelong learning. "The learning inside an organisation must be equal to or greater than the change outside or the organisation may not survive" (Zuber-Skerritt, 1995:1).

For an organisation, learning is the process of adapting to one's environment, just like all other living organisms (McGee & Prusak, 1996). In turbulent environments, learning by trial and error has to be accompanied by explicit, systematic learning. Stata (1989) claims, "the rate at which individuals and organisations learn may become the only sustainable competitive advantage, especially in knowledge-intensive industries", in agreement with Adler and Cole (1993) that "consensus is emerging that the hallmark of tomorrow's most effective organisations will be their capacity to learn". Competitive advantages can be attained through collective learning in the organisation, through combination and coordination of skills, competencies, and technologies. This means communication, involvement of people, and commitment to work across organisational boundaries that should be reflected in the corporate strategy (Prahalad & Hamel, 1990).

Edmondson and Moingeon (1996:21) define learning as a process that enables an entity to increase its range of potential behaviours through its processing of information. The authors furthermore explain that organisational learning occurs when any of the organisation's units acquires knowledge, which the unit recognises as potentially useful to the organisation. Because the organisation is the potential beneficiary of knowledge, this learning is organisational (Edmondson & Moingeon, 1996:21).

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Espejo, Schumann, Schwaninger, and Bilello (1997:147) take a different approach and define learning as a process that enhances the potential for effective action, while comprising the acquisition of knowledge and skills. The authors also identify two important aspects of learning, namely -

- operational learning or know-how; that is, the capability of bringing about a desired situation, and
- conceptual learning, or know-why; that is, the understanding of experience or insight.

Espejo *et al.* (1997:150) then take a further step by adding that organisational learning is an increase in the organisation's capability for effective action. The authors state that it is the creating, acquiring, and transferring of distinctions and practices in the organisation. Organisational learning is then only effective if it increases the organisation's fit to its environment (Espejo *et al.*, 1997:91).

Mumford (1995:88) agrees with this view by stating that learning has happened when people can demonstrate that they know something they did not know before (insights and realisation as well as facts), and/or when they can do something they could not do before (skills). As the author puts it: "Learning is a process and an achievement - as well as a journey". Senge (1996) argues that it is no longer possible to "figure it all out at the top - the idea that the top thinks and the local (bottom) acts, must give way to integrative thinking and acting at all levels". He indicates that learning has very little to do with taking in information. Learning is a process that enhances the ability to build the capability to create new knowledge, understanding, and solutions.

Training versus learning, and theory versus experience, is the basis for Brown and Duguid's (1991) work. They establish the difference between canonical (based on books and training) and non-canonical (based on daily experience) practice. The second is the

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one that can really help in day-to-day tasks. To leverage those practices, the authors suggest storytelling, among other activities. Brown and Duguid (1991:101) state that there are significant differences between the ways that work is documented versus the way that it is actually performed. Building on Lave and Wenger's (1990) practice-based theory, Orr's (1990a, 1990b) investigations of knowledge-practice, and Daft and Weick's (1984) interpretive account of "enacting" organisations, Brown and Duguid suggest that learning is the natural connection between working and innovating. They conclude that the central issue in learning is about becoming a practitioner, not learning about practice.

As communities of practice foster learning, working, and innovating, the organisation has the potential to become an overarching "community-of-communities" which allows it to capitalise on the innovative energy, learning, and working that reside throughout the entire organisation.

Levels of Learning

Van Dyk *et al.* (2001:126) distinguish between the following levels of learning -

- individual,
- group or team,
- cross-functional, and
- organisational.

Each person's commitment and ability to learn is essential. The individual must be dissatisfied with the way things are and must take the responsibility to be a learner and support the learning of others (Taylor, 1997; Marquardt, 1996). Argyris (1992) argues that employees must take active responsibility for their own learning, develop and share new knowledge, and empower themselves by shaping lasting solutions to fundamental

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problems. It is important to develop the ability of individuals to learn more in less time through varied techniques of accelerated learning to be effective in building innovation, imagination, and creativity into the learning process. Intellectual capital and knowledge are of the most important assets of an organisation, therefore individuals need to be encouraged to learn in the same manner as the entrepreneurial organisation by taking risks, experimenting, and adjusting behaviour on the basis of what is successful and what does not work (Van Dyk *et al.*, 2001:127).

Organisations having to deal with increasingly complex problems, have found that group or team learning has become increasingly important. The performance of individual specialists depends on individual excellence and the ability to work well together (Senge, 1990). The group has to function as a whole through alignment and synchronicity (Jaworski, 1996). Team learning is the process of aligning and developing the capacity of a team to create the results its members truly desire (Senge, 1990). Learning organisations create a full range of teams. These teams take time to reflect and do action learning for the purpose of organisational change and renewal. Organisation-wide learning occurs through shared insights, knowledge, and mental models. The success of learning organisations is the result of the expertise embedded in the whole group working in unison (Marquardt, 1996).

Types of Learning

More than one type of learning exists in a learning organisation, and an organisation can employ more than one type of learning at the same time. The process by which teams work and learn in real time relies heavily on action learning and cybernetic loops that can help the learning race for a creative future.

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The following types of learning can be distinguished -

- adaptive,
- anticipatory,
- deuterio,
- single- and double-loop, and
- action learning (Van Dyk *et al.*, 2001:126).

Argyris and Schön (1978, in Bontis, 1998:72) identified three types of organisational learning: single loop, double loop, and deuterio learning. Argyris (1992) describes single-loop learning as “any detection and correction of error that does not require changes in the governing values”, whereas double-loop learning “is the detection and correction of error that requires change in the governing values”. Most businesses follow single-loop learning that merely detects and corrects problems as soon as possible so that the organisation can continue with its regular activities. Single-loop learning asks a one-dimensional question to elicit a one-dimensional answer (Argyris, 1994 in *Organisational Learning*, 2001:91).

Marquardt (1996) uses the principles of single-loop and double-loop learning in what he terms “adaptive learning” which he depicts as shown in Figure 3.

Figure 3: Adaptive Learning



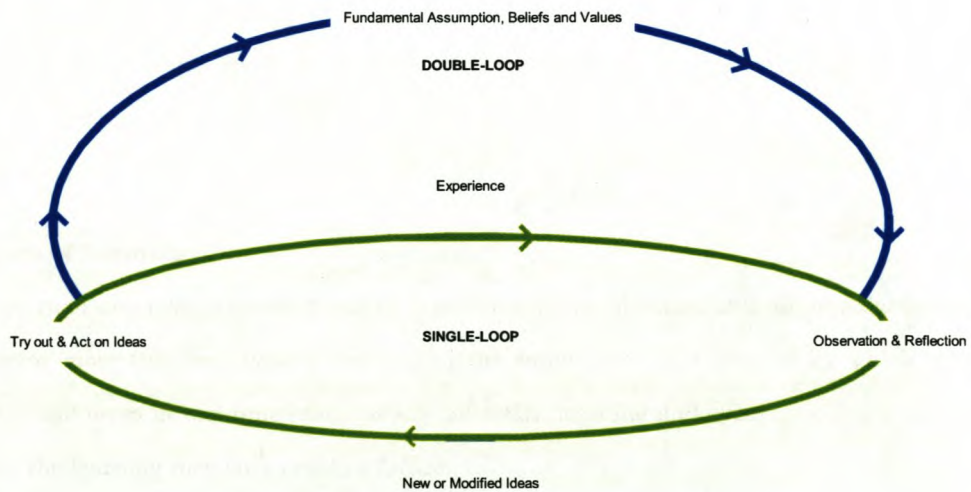
Source: Van Dyk *et al.*, 2001:128

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Adaptive learning focuses on solving problems in the present without examining the appropriateness of current learning behaviours. Adaptive learning is about coping. Adaptive organisations focus on incremental improvements, often based upon the past record of accomplishment. They do not question the fundamental assumptions underlying the existing ways of doing work.

Generative learning or double-loop learning takes an additional step, or more often than not, several additional steps as shown in Figure 4. It turns the question back to the questioner and emphasises continuous experimentation and feedback in an ongoing examination of the very way organisations go about defining and solving problems (Argyris, 1994 in *Organisational Learning*, 2001:91). Double-loop learning not only involves the detection and correction phase of problem resolution, but also attempts to modify underlying norms, policies, and objectives.

Figure 4: Single- & Double Loop Learning

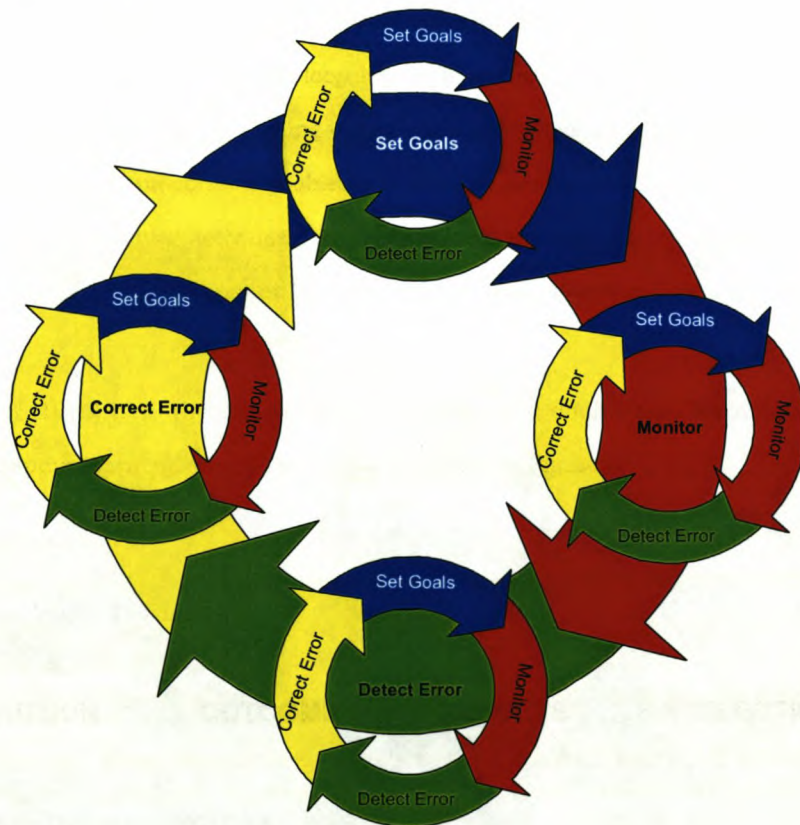


Source: Pedler, 1994:148

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Senge (1996) states that leading organisations focus on “generative learning”, which is about creating, as well as “adaptive learning”, which is about coping. “Anticipatory learning” (Marquardt 1996) happens when organisations learn from experience to anticipate the future, which is a vision-reflection-action approach where planning is used as learning. “Deutero learning” involves self-evaluation. Reflecting on past experience, identifying strengths and weaknesses in the way problems and errors are identified, and introducing solutions, the organisation learns how to become better at both single- and double-loop learning (Calder, 1994) (see Figure 5).

Figure 5: Deutero Learning



Source: Adapted from Calder, 1994:43

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Argyris and Schön (cited by Marquardt, 1996) call this “learning about learning”. Triple-loop or deuterio learning, unlike adaptive learning, requires new ways of looking at the world. It is the most advanced of the three types of learning and involves understanding the whole process. Although the deuterio concept is intuitively appealing, Malhotra (1996) states that many managers have yet to find a practical means to adopt the deuterio learning process and predicts that managers who are not able to make provision for deuterio learning will struggle to grasp and develop the full scope of the organisation’s intellectual capital.

Revsans’ equation for learning is: $L = P+Q$, that is, *programmed knowledge plus questioning insight* (cited by Marquardt, 1996 and Zuber-Skerritt, 1995). It forms the basis of the action learning process where learning builds upon the experience and knowledge of an individual and/or a group and upon skilled new questioning, which results in creative new knowledge.

Action learning, in brief, is learning from concrete experience and critical reflection on that experience - through group discussion, trial and error, discovery, and learning from and with each other. It is a process by which groups of people (whether managers, academics, teachers, students, or “learners” generally) address actual workplace issues or problems, in complex situations and conditions. The solutions they develop may require changes to be made in the organisation, and these solutions often pose challenges to senior management. However, the benefits are great because the people participating accept that they actually own their own problems and their own solutions. Contrary to situations where solutions are devised by senior management based on “expert” recommendations and advice, action learners are more likely to act on their own solutions and to implement the desired changes (Zuber-Skerritt, 2002:115). Action learning is a way to give staff challenging jobs with support systems to help them learn, because it is the study of real-life problems and solutions provided within a real-life environment.

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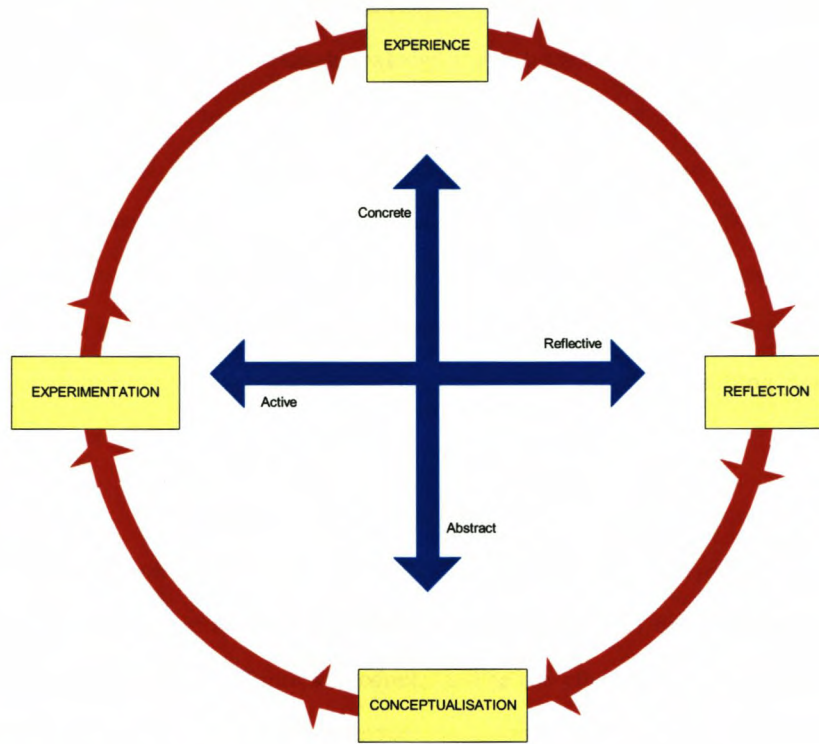
In action learning, learners themselves develop as experts on the problem or learning task and on how to solve or conduct it. In contrast to action learning, the traditional, enduring view of learning has assumed that knowledge must be transmitted and received in the form of information, theories, and research findings, and after reception, learners can apply the knowledge to their own purposes. Here learning is an external, objective process. It is a recent pedagogical insight that learners at any level can acquire knowledge - and produce it - through their own active search and research, following a problem-solving process similar to that of specialist researchers. Action learning recognises the possibility for learners to generate knowledge rather than merely absorbing passively the results of research produced by specialists.

Action learning is individual as well as social and job related. Learning from one's own experience can be powerful but it can also be inefficient if it is not followed through by formal and systematic opportunities to conceptualise the effect of this experience. On the other hand, formal training and development, especially in management and higher education, have been criticised for being too abstract and irrelevant to the participants' practical work. Action learning provides a flexible and systematic method to conceptualise learning from experience. Because action learning is concrete and concerned with learners' actual experiences, it is immediately relevant to their practical work.

Action learning is therefore a continuous process of learning and reflection with an intention of getting things done. The basic philosophy behind action- and experiential learning is that knowledge can be created by concrete experience and by observing and reflecting on this experience. Kolb (1996) focuses on problem-orientated learning, starting from the position that what people have learned must be evident from their actions and illustrates this with a circular process (that commences with experience, leading to reflection, conceptualisation, deciding, and returning to (re)doing. (see Figure 6)

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Figure 6: The Learning Cycle



Source: Kolb, 1996:271

Pedler (cited by McGill & Beaty, 1995) explains the process as follows:

- Experience: Observing and reflecting on the consequences of action in a situation.
- Understanding: Forming or reforming understanding of a situation because of experience.
- Planning: Planning actions to influence the situation, based on newly formed or reformed understanding.
- Action: Acting or trying out the plan in the situation.

This implies that a process of learning and re-learning is constantly part of the learning process and it leads to making sense of an experience in a new way, leading to

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understanding and insight. This allows for new plans, new strategies for actions, and new modes of behaviour (McGill & Beaty, 1992).

Conclusion

Limerick *et al.* (1994:35) define the action-learning organisation in terms of its essence: “the essence of an action learning organisation lies in a widely distributed capacity to question and re-define both individual and organisational identity. It is this unique autonomy of individuals that is the fundamental hallmark of an action learning enterprise”.

Knowledge is our most important asset and knowledge-based assets will be the foundation of success in the 21st century (Wiig, 1997). Wiig states that organisations “have increasingly realized that knowledge and intellectual assets and capital must be managed deliberately, systematically and with expertise to survive”. Intellectual capital consists of assets created through intellectual activities ranging from acquiring new knowledge (learning) to creating valuable relationships. Intellectual capital management focuses on renewing and maximising the value of the enterprise’s intellectual assets. The responsibility of generating and creating new knowledge rests with every group and every individual in the organisation. The approach of knowledge creation involves working on real problems, focusing on the learning acquired, and implementing the solutions (Marquardt 1996). The process of action learning can involve single- and double-loop learning as well as deutero learning. Action learning should become an integral part of the organisation’s culture - an organisation that uses every opportunity to learn from its own practice. This will enable an organisation to view itself as a “learning organisation”. It is asserted that learning, and specifically action learning, forms the basis for the development of skills and the transfer of knowledge, which will be discussed in the following sections.

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In the South African context, the concept of learning translates in to the development of skills and the transfer of knowledge as part of a National Skills Development Strategy to bridge and create a link between the “two economies”. The development of skills and the transfer of knowledge will be discussed in the following sections.

2.5 THE SKILLS DEVELOPMENT IMPERATIVE

Introduction

The learning environment should not be viewed in isolation, but against the background of current economic, technological, social, and political factors that are in the process of transforming the working world. The responsibility of transforming the education system in response to changing demands rests with the State but in fulfilling the function the State is faced with the dilemma of increasing the relevance, effectiveness, efficiency, equality, and sustainability of the education system under conditions of capital constraints. The education system in South Africa has received severe criticism for lacking in relevance to market demands. According to Van Dyk *et al.* (2001:35), this lack of relevance is a universal problem for education systems trapped in tradition and bureaucracy and unable to respond to rapidly changing labour markets. The government in South Africa is faced with the challenge of balancing the demand for a skilled and flexible labour force to make industries in the country more competitive, on the one hand, and on the other hand, of ensuring equal access for all citizens to training opportunities as well as to redress disadvantages faced by particular groups.

Different Levels of Skill

People in an organisation function at certain skill levels, depending on their experience, interests, task complexity, and productivity. Senge (1999) recognises the following skill levels - listed in increasing order of knowing how to cope with a changed environment - trainee, amateur, professional, specialist, and expert.

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- *Trainee* - trainees learn by following existing rules and procedures. Their understanding is mainly rational and intuition plays a minor role.
- *Amateur* - amateurs have a grip on the studied theory. They are capable of understanding regular, routine processes and learn from there.
- *Professional* - they know the ins and outs of the subject matter. Professionals are learning the finer details and are able to cope - autonomous - with small adaptations.
- *Specialist* - a specialist has experienced many different situations that build his extensive skills. Specialists can handle even the most exotic circumstance.
- *Expert* - experts possess all knowledge to the full. They use and can rely on their intuition to deal with a situation.

The distinction in skill levels may help enabling the process of knowledge sharing within an organisation. Knowledge sharing can be tailored to the skill levels of the people involved - knowledge transfer between a professional and an amateur may be more fruitful than between an expert and a trainee - because their level of understanding does not differ too much. In addition, the distinction may help in finding the right counsellor. It can also support in establishing the responsibilities a person has in knowledge sharing - an expert will play a larger role as compared to a trainee because more people can benefit from his knowledge. Not only a person's individual characteristics and his skill level are important elements in knowledge sharing, but knowledge sharing is also influenced by the (functional) role a person has in the organisation. Nonaka and Takeuchi (1995) claim "creating new knowledge in the knowledge-creating company requires the participation of front-line employees, middle managers, and top managers. Indeed, the value of any one person's contribution is determined less by his location in the organizational hierarchy than by the importance of the information he provides to the entire knowledge creating system".

To influence the education system and bring about the necessary changes to meet new challenges, the State is compelled to take the lead in developing policy that is supportive of

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the economic and social changes the country is facing. Hand in hand with policy goes legislation that should make provision for enabling mechanisms, but that will also regulate the actions and inputs of those involved in the education and training market.

In this section, the strategy and legislation that governs education and skills development in South Africa will be discussed.

The National Skills Development Strategy

It is widely agreed that South Africa is not yet equipped with the skills it needs for economic- and employment growth and social development. Hence, the Skills Development and the Skills Development Levies Act were passed in 1998 and 1999 respectively. The legislation charged the Minister of Labour to prepare a National Skills Development Strategy with the objective of developing “skills for productive citizenship for all” (Benjamin & Barry, 2002:[3]113).

South Africa has a poor skills profile because of the historically poor quality of general education for the majority of South Africans, the poor relevance of much of the publicly funded training, and the low level of investment in training by organisations in general. This poor profile inhibits productivity growth, new investment prospects, and the employability of the young and unemployed. Accordingly, the sustainability of small and medium sized enterprises is impaired and equitable income distribution cannot take place.

The Green Paper on Skills Development (Republic of South Africa, 1997) identified the following issues regarding skills development -

- ❖ In the country as a whole the following problems were identified -
 - South Africa has been rated as having one of the poorest human resource development records in comparison to other countries at equivalent stages of development.

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- Problems in the schooling and university systems inherited from the past have contributed to this poor record. In addition, there has been a serious failure to address middle level competency requirements in the society - evidenced by the decline in the apprenticeship system and the failure to put anything in its place. Skills shortages at these and higher levels lead to inefficient enterprise operations.
 - There has been a poor alignment of training programmes with social and economic strategies. South Africa's poor record in mathematics and science and the repeated failure of technical college graduates and those completing unemployment-training programmes to find employment, are illustrative of this.
- ❖ In industry the following problems were identified -
- The level of structured industry training in South Africa is much lower than that of its major trading partners.
 - The sectors in which most of South Africa's growth and employment opportunities are likely to occur in the future spend less on skills development than the national average.
 - Most industry training is informal.
 - A very small proportion of formal training is provided to lower-level workers.
 - There is a failure on the part of South African firms to recognise the importance of training within the new competitive environment and the need for training to be strategically integrated into their competitive strategies.
 - Artisan training has declined dramatically.
 - There is a shortage of high quality management.
- ❖ Among target groups the following problems were identified -
- Programmes often take place outside of any clear employment framework.
 - Learning programmes are not linked to work experience.
 - Programmes are of too short a duration to meaningfully influence behaviour.

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- Basic education needs have not been linked to the development of applied competencies.
- Entrepreneurial training is frequently divorced from specialised training.
- Learners are not assisted to find employment after qualification.
- Stereotyping and prejudiced attitudes towards people with disabilities and women have hindered their access to training opportunities.

These problems and the huge challenges facing South Africa in terms of employment, growth, and development demanded a new conceptual approach to skills development. The Department expressed the view in the Green Paper that given the demands of a more complex and changing economy, characterised by increasing use of information, more complex technologies and a general rise in the skill requirements of jobs, people must also have rising levels of applied competence. The focus on skills development in the Green Paper is about the process of deepening individuals' specialised capabilities in order that they are able to access incomes through formal sector jobs, through small micro enterprises or community projects which in turn positively contribute to the economic success and social development of the country. This learning process must also enable people to continue learning and adapting to the constantly changing environment. The core strategy underlying the Green Paper was to create an enabling environment for expanded strategic investment in education and training to achieve these objectives and results.

The Green Paper on Skills Development defines the "National Skills Development Strategy" as follows: "The vision is an integrated skills development system which promotes economic and employment growth and social development through a focus on education, training, and employment services" (Department of Labour, 1997).

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The vision enunciated in the strategy includes the following -

- *Skills*: financial and other support should be directed towards the acquisition of skills that are needed by employers and communities and that increasingly will reflect qualifications and standards that are part of the National Qualifications Framework. Skills development is about enabling and empowering individuals through the acquisition of competencies that are in demand. It is not about the provision of diversionary activities simply to keep unemployed people active for short periods or about merely filling programmes offered by training providers. Skills must be linked to quality provision and qualifications (either in whole or in part) that hold currency throughout the country.
- *Productive citizenship*: the concept of citizenship in South Africa has been understood mainly in political terms - "the right to vote" and to be consulted. However, as poor people, particularly, have discovered the ability to vote is not enough on its own. Citizenship must also include the right to actively contribute to and participate in making decisions that affect investment and work. Skills development is as much about building the capacity of people to engage in these decisions as to execute the roles and functions that will flow from them. In the workplace, decisions are about productivity, the organisation of work and technology; in new and small enterprises they are about entrepreneurship, sustainability, and growth and in communities they are about the focus, pace and trade-offs linked to local economic development.
- *For all*: the vision is an inclusive one. The intention is to create opportunities for those in work as well as for the unemployed; for new entrants to the world of work as well as for older people; for women as well as men and for people with disabilities who for too long have not been valued for their capabilities.

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This vision is underpinned by the following guiding principles:

- *Lifelong learning*: communities and workplaces are changing continuously. If individuals are to shape these changes and take advantage of them to improve the quality of their lives, they need to upgrade and improve their skills continuously.
- *The promotion of equity*: there are not only legacies to be erased but positive interventions are demanded if South Africa is to build an inclusive society and widen opportunities.
- *Demand-led*: skills development has been pursued in the absence of a realistic assessment of how the skills are to be employed. The emphasis will be on the skills and competencies required to support productivity, international competitiveness, the mobility of workers, self-employment and meeting defined and articulated community needs.
- *Partnership and cooperation*: at national, sector, provincial, community, workplace levels the definition, and implementation of the skills development strategy should be based on partnerships between and amongst the social constituencies.
- *Efficiency and effectiveness*: the delivery of skills development programmes and initiatives must be characterised by cost-efficiency and should lead to positive outcomes for all those who invest in training and skills development.

The following mission statement was adopted to encapsulate the goals of the National Skills Development Strategy - "To equip South Africa with the skills to succeed in the global market and to offer opportunities to individuals and communities for self-advancement to enable them to play a productive role in society" (Benjamin & Barry, 2002: [3]116-117).

The five objectives identified to drive the national skills strategy are -

- to develop a culture of high quality lifelong learning,
- to foster skills development in the formal economy for productivity and employability,

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- to stimulate and support skills development in small businesses,
- to promote skill development for employability and sustained livelihoods through social development initiatives, and
- to assist new entrants into employment (Benjamin & Barry, 2002:[1]1).

According to the Minister of Labour (2001), South Africa has only three million skilled and highly skilled people as opposed to seven million trapped in semi/unskilled work or unemployment. Compared to middle-income and advanced industrial countries, South Africa faces specific shortages of professional managers and technicians and craft and skilled workers. Whilst many employers have provided skills development opportunities for their staff, a commitment to training has not characterised the South African labour market. An ILO country profile of South Africa reported that although 87% of a sample of manufacturing companies claimed to provide skills development opportunities, in practice 70% offered induction and initial training only. The same report suggested that in no firm did production workers account for more than 10% of those who had received training during the previous year.

It is against this background that the National Skills Development Strategy seeks to develop the skills of the broad base of South African workers using the following legislation as its primary tactics.

The Skills Development Act

The Green Paper culminated in the Skills Development Act, which seeks to develop the skills of the South African workforce and thereby increase the quality of working life for workers, improve productivity in the workplace, promote self-employment and improve the delivery of social services (Van Dyk *et al.*, 2001:36).

The Act seeks to encourage employers to use the workplace as an active learning environment and to provide opportunities for new entrants into the labour market to gain

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work experience. A special focus of the Act is to improve the employment prospects of previously disadvantaged persons through education and training. The Act also gives organised employers and workers greater responsibility for ensuring the relevance of training, which will enhance the quality of the skills available in the work environment (Republic of South Africa, 1998).

Two types of learning programmes are identified by the Act.

The first is learnerships, which incorporates the traditional apprenticeships. This structure can be used to provide training for new entrants into the labour force as well as to upgrade the skills of existing employees. A learnership is a triangular agreement between the learner, his employer, and the training provider. The Act requires that a contract of employment must exist between the employer party to a learnership agreement and the learner.

Learnerships provide for structured learning and work experience that leads to nationally registered, occupationally linked qualifications in areas of skill, need, or opportunity in the labour market. The Sector Education and Training Authorities (SETA) created by the Act must promote learnerships by -

- identifying workplaces for practical work experience,
- supporting the development of learning materials,
- improving the facilitation of learning,
- assisting in the conclusion of learnership agreements.

The structured learning component includes fundamental learning, core learning, and specialisation. The work experience component relates to the structured learning and prepares the learner for competence assessment (Republic of South Africa, 1997).

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The second type of learning programme that the Act provides for is “skills development programmes that are not learnerships”. To qualify for funding under the Skills Development Act, a skills programme must -

- be occupationally based,
- on successful completion, constitute a credit towards a qualification registered in terms of the National Qualifications Framework,
- use accredited training providers,
- comply with any further requirements imposed by the SETA, Director-General or by regulation, and
- accord with the sector skills development plan of the SETA or the National Skills Development Strategy (Benjamin & Barry, 2002:[1]18).

Although the Act itself is quiet on the meaning of “skills” and “skills development” the Department of Labour used the term “skills development” in the Green Paper on Skills Development (Republic of South Africa, 1997) to capture a specific perspective that emphasises the development of competent performance by an individual or a specified and yet dynamic social or economic purpose. It was not intended to prepare individuals for the isolated performance of a routine task in an unchanging environment - a very outdated notion - but rather the development of the necessary competences, which can be expertly applied in a particular context for a defined purpose. It is intended that skills development should result in skilled performance such as is traditionally associated with the work of “skilled craft workers”, “skilled managers” and “skilled professionals” (Republic of South Africa, 1997).

The Green Paper further references the Phase 2 report of the Education, Training, and Development Practices Project under the National Training Board, which provides the following definition of “applied competence” as synonymous with “skill” - “applied competence is the overarching term for three kinds of competence -

- practical competence: the demonstrated ability to perform a set of tasks, and/or

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- foundational competence: the demonstrated understanding of what others or we are doing and why, and/or
- reflexive competence: the demonstrated ability to integrate or connect performance with understanding of that performance so as to learn from actions and adapt to changes and unforeseen circumstances” (Republic of South Africa, 1997).

This broad understanding of applied competence or skills is essential in a rapidly changing world where tasks seldom stay the same and where the adaptability of people to new demands and opportunities is as fundamental to employment or income security as it is to growth. A learning nation, just as any learning organisation, has to be made up of people with all three kinds of competence, capable of reflecting on their current performance in order to continually improve it.

The Skills Development Act is supported by *inter alia* the Skills Development Levies Act which establishes a compulsory levy scheme for the purpose of funding education and training as envisaged in the Skills Development Act. The system of levy financing creates considerable incentives for employers to adopt a pro-active approach to skills development. Twenty percent of levies collected are allocated to a National Skills Fund, which, together with funds received from the *fiscus*, are used to fund national skills development priorities. In terms of the Regulations promulgated in terms of the Act, organisations can recover up to 45% of the skills development levies paid during the 2002/3 financial year if they comply with the provisions of the Act and are pursuing skills development initiatives that will further the National Skills Development Strategy. Section 28 of the Skills Development Levies Act provides that: “The money in the Fund may be used only for the projects identified in the National Skills Development Strategy as national priorities or for such other projects related to the achievement of the purposes of this Act”. Employers, training providers and workers may apply for discretionary grants to cover the costs of training projects, initiatives or research that implement a SETA’s skills plan (Benjamin & Barry, 2002:[1]29).

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Recognising communities of practice as a core element of the National Skills Development Strategy could therefore qualify organisations that are sustaining communities of practice for funding in the form of grants, adding impetus to the knowledge management initiatives of such organisations.

Conclusion

Learnership programmes as the Government's primary strategy to develop skills, are not without criticism or an unqualified success. According to media reports, the government is set to announce a sweeping plan to take on 26,500 learnerships at state departments during 2004, signalling hope for President Thabo Mbeki's aggressive drive to halve SA's unemployment rate by 2014. The latest figures released by Statistics SA estimate the country's unemployment rate at 37%. The plan comes just a month after a report, released at the National Skills Development conference held in October 2003, showed that government was lagging far behind its objective of enrolling 80,000 unemployed young people in learnership programmes by March 2005. Only 40,000 young people were enrolled in programmes for the past two years (Business Day, 18/11/2003).

This lack of success is hardly surprising in an environment of endemic low economic growth and inflexible labour legislation causing organisations to be loath to increase staff complements.

The question that arises is whether communities of practice as a learning strategy could serve as a core element of or as a project that will qualify under the National Skills Development Strategy.

2.6 THE KNOWLEDGE TRANSFER IMPERATIVE

Introduction

“In the modern business world, worthwhile ideas that you don’t harness, end up in your competitors hands” (Brown & Duguid, 2000:74).

Organisations are confronted with an ever-changing environment. The increasing pace of change in our society emphasises the necessity for organizations to adapt to and cope with environmental uncertainty. Choo (1995) argues that in order to cope effectively with their changing environment organisations and their employees should act as a learning organism and be adaptive, innovative, and able to process information about that environment, and be able to turn this information into knowledge and share this within the organisation.

Knowledge sharing is about stimulating the exchange of experiences, ideas, and thoughts between people. Organisations can create and sustain an environment that encourages knowledge sharing, i.e. they can provide for conditions that enable such an environment.

The above-mentioned dynamic, complex, and often chaotic developments in our society have their effect on organisations. The increasing pace of change requires a continuous effort of people and organisations to meet the demands of this changing environment: people need to be connected to solve complex and interrelated problems together, their collaboration ought to be supported by an adequate technical infrastructure to avoid being hampered by geographic and time constraints, nor should they be obstructed by hierarchical organisational structures. Organisations will need to evolve from mechanical routine based systems into adaptive, open, and learning organisms (McGee & Prusak, 1996; Choo, 1995; Stewart, 1997; Malhotra, 1993).

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The concept of organisations as a learning organism can be formulated as living systems that are dependent on the environment in which they live. Churchman defined environment as those factors which not only are outside the system's control but which determine in part how the system performs (Malhotra, 1993). Organisations are seen as open, adaptive systems who live in constant interaction with their surrounding: "They form alliances with other adaptive systems and engage in information processing that changes the range of its potential objectives or the boundaries within which it can attract and use resources to achieve these objectives" (Mason, 1993). "The ultimate criterion of organisational performance is long term survival and growth" write Fiol and Lyles (1985). Based on Darwin's theory, Morgan (1986) asserts that for their survival and growth organisations are, just like organisms, dependent on their ability to accrue sufficient resources in their environment necessary to support their existence. In this process, they have to compete with other organisations for the limited amount of available necessary resources, and only the strongest do survive. Therefore, which organisations will be successful will be determined foremost by the environment. According to Kenneth Boulder, it is rather "survival of the fitting" than "survival of the fittest".

A key aspect in this respect is learning, in the sense of being able to interpret signals and act upon them. "A person learns when he gains new knowledge and insights and applies this actively to their behaviour. Also with organisational learning, new insights imply adjusted operation. Organisational learning is the product of combined efforts, discussions, shared knowledge, ideas, insights, thoughts, and mental models" (Stata, 1989). De Geus (1997) states: "The company must be able to alter its marketing strategy, its product range, its organisational form, and where and how it does its manufacturing. In addition, once a company has adapted to a new environment, it is no longer the organisation it used to be; it has evolved. That is the essence of learning".

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Knowledge management is not new but as the foundation of industrialised economies has shifted from natural resources to intellectual assets, executives have been compelled to examine the knowledge underlying their businesses and how that knowledge is used. At the same time, the rise of networked computers has made it possible to find, store, and share certain kinds of knowledge more easily and cheaply than ever before.

The choice between codification and personalisation as a strategy is one facing virtually all organisations in the area of knowledge management (Hansen *et al.* in *Organizational Learning*, 2001:62-63). Within the two generic knowledge strategies identified by Zack (1999), organisations employ two very different knowledge management implementation strategies. In some companies, the strategy centres on the computer. Knowledge is carefully codified and stored in databases, where it can be accessed and used by anyone in the company. This is commonly referred to as the codification strategy. Codification entails the collection, codification, storage, and re-use of knowledge to allow multiple access and retrieval thereof thus achieving scale in knowledge reuse.

In other organisations, knowledge is closely tied to the person who developed it and is shared mainly through direct person-to-person context. The chief purpose of computers at such companies is to help people communicate knowledge, not store it.

This is referred to as the personalisation strategy. These organisations focus on dialogue between individual, not knowledge objects in a database and the emphasis is therefore on establishing networks of knowledgeable people. The differences between the two strategies are summarised below in Table 1.

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Table 1: Two Knowledge Management Strategies

| Codification | | Personalisation |
|--|-------------------------------|---|
| <ul style="list-style-type: none"> ○ High quality, reliable and fast implementation of information systems by re-using codified knowledge | Competitive Strategy | <ul style="list-style-type: none"> ○ Creative, analytically rigorous approach to problems based on individual expertise |
| <ul style="list-style-type: none"> ○ Re-use economics ○ Invest once in a knowledge asset and re-use it many times ○ Focus on accessibility and re-use with big economies of scale in relation to high volumes | Economic Model | <ul style="list-style-type: none"> ○ Expert economics ○ Produce highly customised, individual solutions to problems based on small teams ○ Focus on value added and high margins |
| <ul style="list-style-type: none"> ○ People-to-knowledge base ○ Develop an electronic document system with standard methods of codifying and re-using knowledge ○ Powerful indexing and search facilities are important | Knowledge Management | <ul style="list-style-type: none"> ○ People-to-people base ○ Encourage and facilitate the development of networks for information sharing ○ Mentoring and asking for help are encouraged so as to share best practice ○ Culture fit is important |
| <ul style="list-style-type: none"> ○ Information storage, retrieval, and dissemination ○ Big investment in IT to enable the management of large databases ○ Big investment in cross-indexing and data cleaning | Information Technology | <ul style="list-style-type: none"> ○ Communications focus ○ Moderate investment in IT to produce an efficient network and easy exchange of ideas |
| <ul style="list-style-type: none"> ○ Technical orientation, team players ○ Train in groups, possibly using distance learning but with a strong emphasis on standard methods and team orientation ○ Reward people for using and contributing to the database | Human Resources | <ul style="list-style-type: none"> ○ Creative problem solvers ○ Seek out people who are creative problem solvers with a high tolerance for ambiguity ○ Training through one-to-one or one-to-few mentoring ○ Reward people for sharing knowledge directly with others |

Source: Gamble & Blackwell, 2001:172

An organisation's choice of strategy is far from arbitrary - it depends on the way the organisation serves its customers, the economics of its business, and the people it hires.

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Emphasising the wrong strategy or trying to pursue both equally at the same time can quickly undermine a business. Organisations can use aspects of both but in order to derive significant value from a knowledge management initiative, a strong preference must be shown to one or the other.

It is asserted that while codification has a role to play in knowledge management, a personalisation strategy is best suited to the learning that is required to develop skills and transfer knowledge.

Davenport and Prusak (2000:88) state it quite clearly - "how can an organisation transfer knowledge effectively? Hire smart people and let them talk to each other". The sharing of knowledge takes place in social interaction among people (Nonaka & Takeuchi, 1995), which in turn influences their perceptions of reality and truth. This process of sharing implies communication of our knowledge and comprehension of the world through our language. Tenkasi and Boland (1996) observe, "We perceive nothing except through the meaning structures of our language in which perception and knowledge is embedded". Therefore the sharing of knowledge also demands a shared (but not necessarily equal) or understood perspective on the universe of discourse in order to attain an understanding of the language used. In this regard, Tenkasi and Boland (1996) argue that knowledge sharing "requires an ongoing process of mutual perspective taking where individual knowledge and theories of meaning are surfaced, reflected on, exchanged, evaluated, and integrated with others in the organization".

Davenport and Prusak (2000:97) propose the following actions to overcome cultural factors within the organisation that might inhibit knowledge transfer (see Table 2)

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Table 2: Knowledge Transfer Tactics

| Cultural Factor | Possible Solutions |
|---|---|
| Lack of trust | Build relationships and trust through face-to-face meetings |
| Different cultures, vocabularies, frames of reference | Create common ground through education, discussion, publications, teaming, job rotation |
| Lack of time and meeting places; narrow idea of productive work | Establish times and places for knowledge transfer activities |
| Status and rewards go to knowledge owners | Evaluate performance and provide incentives based on sharing |
| Lack of absorptive capacity in recipients | Educate employees for flexibility; provide time for learning; hire for openness to ideas |
| Belief that knowledge is prerogative of particular groups; "not-invented-here" syndrome | Encourage non-hierarchical approach to knowledge; quality of ideas more important than status of source |
| Intolerance for mistakes or need for help | Accept and reward creative error and collaboration; no loss of status from not knowing everything |

Source: Davenport & Prusak, 2000:97

These strategies and tactics can be used to create the needed dialogue in organisations for knowledge transfer to take place. Dialogue will be discussed in the next section.

Creating a dialogue

Dialogue, as used by Senge (1992), can be seen as an example of mutual perspective taking and moves beyond discussion. Dialogue allows the exploration of complex or difficult issues from many different perspectives and offers groups of people the possibility to share knowledge and to gain new insights. Cross *et al.* (2000) distinguish four characteristics that influence effective knowledge sharing through social interaction -

- in knowing what other people know (the specific knowledge or way of thinking they can contribute to solve a problem),

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- in having access to other people’s thinking (are they accessible, able, and willing to share),
- in having people to actively engage in problem solving (do they try to understand the issue or do they offer solutions with little thought), and
- in having a safe relationship to promote learning and creativity (a certain degree of trust in the other person is requisite).

The dynamic model of knowledge creation, as presented by Nonaka and Takeuchi (1995), states that individual human knowledge is created and expanded through social interaction. Moreover, it lays emphasis on the key assumption that knowledge creation occurs through interaction between tacit knowledge and explicit knowledge, the so-called knowledge conversion. Tacit and explicit knowledge interact with and interchange into each other through the creative activities of people. Four conversion processes are defined for this interaction. (see Table 3 below)

Table 3: Interaction between Tacit & Explicit Knowledge

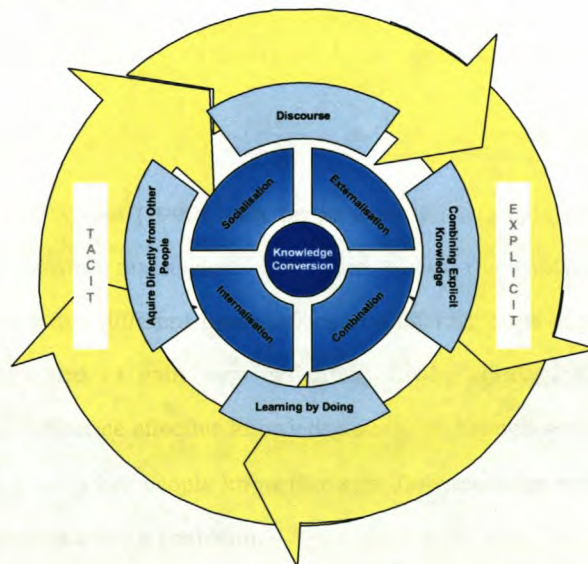
| Conversion | Conversion Mode | Interaction | Knowledge Content |
|----------------------|------------------------|--|--------------------------|
| Tacit-to-Tacit | Socialisation | Where people acquire new tacit knowledge directly from other people by sharing experiences | Sympathised knowledge |
| Tacit-to-Explicit | Externalisation | Knowledge is externalised into tangible form through discourse: tacit knowledge is articulated in metaphors, stories, analogies, concepts, hypotheses or models | Conceptual knowledge |
| Explicit-to-Explicit | Combination | Combining different bodies of explicit knowledge, such as documents, may create new knowledge | Systematic knowledge |
| Explicit-to-Tacit | Internalisation | Transfer of explicit knowledge into tacit knowledge takes place through “learning by doing” or when people internalise knowledge from explicit knowledge bodies like documents | Operational knowledge |

Source: Nonaka & Takeuchi, 1995

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Nonaka and Takeuchi (1995) claim that each mode of knowledge conversion creates a different type of knowledge content. The product of socialisation originates from sharing experiences and is called sympathised knowledge and can consist of shared mental models. Conceptual knowledge - because tacit knowledge is articulated into explicit concepts - is generated in the externalisation mode. Systemic knowledge - for systemising concepts - is the product of the combination mode where explicit knowledge creates other explicit knowledge. Internalisation creates operational knowledge about for example new production processes. Nonaka and Takeuchi (1995) define a “knowledge spiral” that progresses through the four modes of knowledge conversion - socialisation, externalisation, combination, and internalisation (see Figure 7). Organisational knowledge is, according to the authors, created by moving from individual tacit knowledge to explicit knowledge and back to individual tacit knowledge in a circular movement whereby each step creates an increase in tacit or explicit knowledge. In due course, this knowledge spiral expands knowledge - tacit as well as explicit - at the individual, group, organisational, and inter-organisational level.

Figure 7: The Knowledge Conversion Process



Source: Adapted from Nonaka & Takeuchi (1995)

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Each of these steps is briefly discussed below.

Socialisation

The most difficult part of knowledge creation is sharing tacit knowledge, yet it is a key factor to make knowledge - which resides in the individual - available to the organisation. After a common ground is established to enhance mutual trust and understanding, individuals may acquire new tacit knowledge directly from other people through the sharing of experiences. Examples of socialisation are master-craftsman apprenticeship relations, on-the-job training, copy and imitate, trial and error experiences, brainstorm sessions, co-operation teams with experienced and non-experienced employees, and job rotation.

Externalisation

The next step is to make tacit knowledge explicit through metaphors, stories, images, concepts, hypotheses, models, and analogies. Tacit knowledge is expressed through dialogue or discourse in a creative way to stir the imagination so that the intuitive meaning can be interpreted or understood better. Externalisation is of vital importance to organisational knowledge creation, because new explicit and tangible concepts are spawned from tacit knowledge. Examples of externalisation are - documentation of lessons learned, best practices, experiences, important decision-moments, outlined work processes and procedures, transfer of attended courses and seminars, frequently asked questions (FAQ's), and threads in discussions-and mailings groups.

Combination

In the combination mode, the newly created explicit knowledge is combined with existing knowledge in the organisation, to create new bodies of explicit knowledge. Examples of combination are educational programs, (electronic) libraries, documented project results, manuals, Internet, and intranets.

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Internalisation

The fourth step amounts to internalising explicit knowledge into tacit knowledge through a modified mental model or by operationalising it through “learning by doing” or prototyping. An example of internalisation is attunement of thinking and doing, like education tailored to the personal characteristics of an individual.

Creating knowledge sharing and transfer through dialogue is a seemingly natural proposition, yet organisations appear to view it as somewhat unnatural partly because of the multitude of approaches and processes that has been advanced to further the management of knowledge resources in the modern organisation. The three primary approaches - the learning organisation, knowledge management, and intellectual capital management - will be discussed in the following section.

Managing Knowledge Resources

A plethora of management theories has been developed in an effort to find the most effective way to harness the opportunities and challenges of the knowledge economy business. There appears to be considerable overlap in the scope of learning organisations, knowledge management, and that of intellectual capital management.

In brief, learning organisations focus very much on the human activities associated with the creation, sharing, development, and deployment of knowledge for competitive advantage. Knowledge management has tactical and operational perspectives. It is more detailed and focuses on facilitating and managing knowledge-related activities, such as creation, capture, transformation, and use of knowledge assets. Its function is to plan, implement, operate, and monitor all the knowledge-related activities and programmes required for effective business operation management. Lastly, intellectual capital management is focused on building and governing intellectual assets from strategic and company governance perspectives with some focus on tactics. The main purpose is to take overall care of all the company’s intellectual assets.

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According to Van Deventer (2002:2.11) all three of these theories are fundamental building blocks, even cornerstones, in the effective management model for the 21st century and are discussed in more detail below.

The Learning Organisation

Peter Senge, regarded as the father of the theory on learning organisations, published *The Fifth Discipline* in 1990. This work highlighted the fact that if an organisation's leadership as well as its staff members choose to do so, the rate at which that organisation learnt could not only ensure the organisation's survival, it could also turn the organisation into the place all members of staff would choose to want to spend their energy and creativity. This is a far better goal than to use learning as a tool because it is viewed as the most important and only sustainable source of competitive advantage.

Senge (1990:13) states that most people think that learning is synonymous with taking in facts. In his opinion, learning involves a fundamental shift or movement of the mind, which is much, much more than memorising or even collecting facts. He sees a learning organisation as an organisation that is continually expanding its capacity to create its own future. From this as well as from the work of Hackett (2000:11) it was established that organisational learning is the process that enables an organisation to adapt to change and move forward by acquiring new knowledge, skills, or behaviours, and thereby transforming itself. It is therefore fair to say that in successful learning organisations -

- individual learning is continuous,
- knowledge is shared,
- the company culture supports learning,
- employees are encouraged to think critically and to take risks with new ideas, and
- all individuals are valued for their contributions to the organisation.

Malhotra (1996) followed Senge's lead and defines a learning organisation as "an organisation in which you cannot not learn, because learning is so woven into the fabric of

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its life". He sees it as a group of people continually enhancing their capacity to create what they want to create.

According to Garvin, Gephart *et al.*, and Choo (1993, 1996, and 1998 respectively), a learning organisation can be characterised as follows:

- Adaptation to a changing environment.
- The organisation monitors its environment and is able to adapt itself in a timely and effective manner to changes in the environment.
- Systematic problem solving.
- The organisation applies known and accepted (quantitative) methods and techniques, rather than guesswork, for diagnosing problems; thereby using organized data, rather than assumptions, to draw inferences.
- Experimentation with new approaches.
- The organisation is methodically searching for and practicing new, state-of-the-art knowledge and is willing and keen to try new technologies and alternative ways of working. It thereby promotes inquiry, dialogue, risk taking, and experimentation.
- Learning from own experiences and past history. It is practice in the organisation to review and evaluate its successes and failures, to assess them systematically, to openly communicate the lessons learned, and to store these lessons in a widely accessible form.
- The organisation is able to engage in, support, and reward continuous organisational learning, including the unlearning of assumptions, norms, and mind-sets that are no longer valid.
- Learning from experiences and best practices from others. The organisation is able to learn from the insights of other companies and the expertise from external experts.
- Transferring knowledge over the organisation quickly. Knowledge is spread swiftly and efficiently throughout the organisation, because of which insights are shared

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company-wide. The knowledge and expertise of its members is mobilised to induce innovation and creativity.

Espejo *et al.* (1997:146) explain that a fundamental prerequisite for survival of an organisation in the changing environment is the ability to adapt to change, which is the essence of "learning". The organisational learning capability, to become a learning organisation, is therefore of the utmost importance to the organisation. Sutton (1994:80) states that all organisations are learning systems. To motivate that the author explains that learning embraces the capacity to respond to change. If organisations are not learning, according to Sutton (1994:80), they are dying, or are dead. Learning organisations should then be skilled at creating, acquiring, and transferring knowledge, and at modifying their behaviour to reflect this new acquired knowledge and insight.

Beeby and Booth (2000:80) describe the differences between organisational learning and the learning organisation in Table 4.

Table 4: Organisational Learning vs. the Learning Organisation

| ORGANISATIONAL LEARNING | LEARNING ORGANISATION |
|---|--|
| <p><i>Processes of learning</i> which are:</p> <ul style="list-style-type: none"> • Greater than the sum of individual learning • Double loop or meta learning • Cognitive processes and organisational activities | <p><i>Systems-level entity</i>, characterised by:</p> <ul style="list-style-type: none"> • Environmental monitoring mechanisms • Organic decentralised structures • Permeation by learning cultures |

Source: Beeby & Booth (2000:75-88)

According to Table 4 learning organisations are characterised as a systems-level entity, meaning it is characterised by environmental monitoring mechanisms. In other words, the organisation is constantly aware of the environment and new information received from this environment. These organisations are also characterised by decentralised organic structures that are able to adjust to the infiltration of information into the

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environment, creating learning cultures. On the other hand, organisational learning is characterised by learning processes, which are greater than the sum of the individual learning, and also involves double-loop and meta-learning which imply changes to underlying mental works which embrace the cognitive and organisational activities of the organisation (Beeby & Booth, 2000:81).

Grieves (2000:67) relates that learning organisations are essentially flexible organisations that operate competitively in a global market and are therefore committed to a rapid response to a dynamic environment. Organisational learning can be seen as a systematic solution for dealing with operational processes that emerge in the daily round of events that give rise to problems or dysfunction in the workplace. Grieves (2000:67) further explains that emergent change strategies require teams to develop learning solutions by means of -

- identifying the processes that are either dysfunctional or could be improved in some way,
- challenging the shared assumptions to develop new knowledge,
- solving the problems and constructing new change strategies, and
- reviewing the processes and recording the data in the quality system.

All the above definitions and Table 4, although they focus on different factors such as processing information, acquiring knowledge and increasing organisations effectiveness, seem to imply a distinct characteristic of a learning organisation, namely the ability to transform or to change itself to adapt to the changing environment.

Bontis (1998:64) and also Robinson and Kleiner (1996:38) report that firms that are thriving in the new strategic environment, see themselves as learning organisations pursuing the objective of continuous improvement in their knowledge assets. Bontis is of

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the opinion that competitive, technological, and market pressures have made continuous organisational learning a critical imperative in global strategy effectiveness.

Van Deventer (2002:2.14) identifies four stages in which successful organisational learning occurs namely -

- information acquisition - when the organisation becomes aware of new or different information,
- information distribution - when the information becomes generally known,
- information interpretation - which is the stage when information becomes knowledge, and
- organisational memory - which is when tacit knowledge is turned into explicit knowledge and therefore again becomes information that should be utilised during the acquisition phase.

The crux of applying learning organisation theory is that one should progress beyond the first stage or loop of learning where newly acquired knowledge is collected and applied. In a second phase, knowledge is used to improve individual processes while in a third phase acquired knowledge is utilised to redesign systems in order to have improved all the processes relating to the system.

It also important that learning is captured along the route of development or learning because learning and knowledge only become truly valuable when they are shared and preferably captured in tangible format. The capturing and packaging of knowledge is the focus area of knowledge management.

Management should ensure that the organisation's culture supports and encourages a learning attitude and strive to build a learning organisation. Senge (in Martensen and Dahlggaard, 1999:883) identifies five disciplines that must be present in an organisation that strives to become a learning organisation, namely -

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- Team learning - learning must take place in teams, so that the synergy of learning in groups and can be utilised.
- Personal mastery - the energy and the desire to learn in an organisation must come from the individual's striving for personal goals and vision.
- Mental models - break down barriers for learning. This can be achieved by weakening each individual's mental assumptions.
- Shared values - the efficiency in the learning organisation can be assured by building up shared values based on each individual's vision.
- Systems thinking - everyone must have a comprehensive understanding of the system. People must understand, how they influence and participate in the organisation, thereby avoid sub-optimisation.

Senge (in Martensen & Dahlgaard, 1999:880) labels learning organisations as organisations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns are nurtured, where collective aspirations are set free, and where people are continually learning how to learn together. The authors argue that individual learning does not guarantee organisational learning, but rather the combination of individual and behaviour to reflect this new acquired knowledge and insight (Perez Bustamante, 1999:8).

According to Martensen and Dahlgaard (1999:880), it is only through this shared effort that an organisation will undergo change. Learning provides the opportunity to change behaviour, which in most cases lead to innovation and improvements. According to the authors, it is this need for innovation and improvements that lead to the learning organisation. Due to this it is important that organisations, in future, be prepared to undergo changes, be willing to adapt to the environment, and at the same time learn from

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their failures to become even better. Failures are an important way to learn and it can be seen as a source of inspiration to changes and improvements.

Thompson (1997:249), however, also explains that an organisation will learn about the need to change from its observations and interpretations of events in the environment, which will often be events created by the actions of others. The result will be that managers will decide upon the actions they will take and implement the necessary changes. Emphasising components of the learning organisation, Thompson (1997:177) writes that a learning organisation will thus continuously encourage learning and knowledge generation at all levels, have processes that can move knowledge around the organisation easily to where it is needed, and translate that knowledge quickly into changes in the way the organisation act, both internally and externally.

Motivation for changes and learning often derives from changes in the organisation's environment. However, to wait for the environment to mobilise an organisation to change, is a fatal mistake in the ever-changing environment where the only real constant is change. For organisations to have a competitive advantage, they have to be at the forefront of change and dictate the market. Organisations need to continuously evaluate their standing in the market and determine the next strategic move. This can only be accomplished by evaluating all macro, micro, and market influences on the organisation and then determining the next step (Martensen & Dahlgaard, 1999:885). What will make the difference is the organisation's ability to adapt to the challenges of the changing environment by becoming a learning organisation that seeks to develop structures and human resources that are flexible, adaptable, and responsive.

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Knowledge Management

Organisations are increasingly implementing knowledge management strategies to detail how to develop and apply the knowledge capabilities required to execute business strategies.

Davenport and Prusak (1998:50) identify two generic knowledge management strategies -

- “Knowing what you know” - better awareness, sharing and application of existing knowledge, and
- “Faster and better innovation” - more effective conversion of ideas into products and services.

Knowledge has become the primary ingredient of what today’s economy makes, does, buys and sells. As a result, managing knowledge, sharing it and selling it has become an important economic function of individuals, companies, and nations. This is because of a basic understanding that the fundamental source of wealth has become knowledge and communication rather than natural resources and physical labour (Stewart, 1997 in Hines, 2000:2). There is also a general realisation that, in a fast changing, competitive, global environment, the ability to exploit knowledge is what gives companies their competitive advantage.

The overall purpose of knowledge management is to maximise the organisation’s knowledge-related effectiveness and returns from its knowledge assets and to renew them constantly. This implies that tacit knowledge must be transferred to explicit, shared knowledge if it is to be of general and lasting value. Taking all of what was reported into consideration, one can only agree with De Gooijer (2000:307) when she declares that “knowledge management is a radical innovation or change to an organisation’s operations, and is thus to be regarded as an intervention on the organisation’s culture”.

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Sveiby (2000b) is of the opinion that the knowledge management movement has gone through at least three phases -

- The first phase was from around 1985-1990 when authors on the subject were exploring the value created by leveraging the competence and skills of people and knowledge creation. “Knowledge management” and “intellectual capital” were not widely used as concepts.
- During the second phase (1991-1997) the IT revolution and the Internet started driving change in organisations. The IT solutions and management processes during this time were about re-using (existing) knowledge and how to avoid re-inventing the wheel. The phrases “knowledge management” and “intellectual capital” were seen primarily as means to increase efficiency. (Interestingly enough Sveiby (2000a) is also of the opinion that knowledge management became “hijacked” by the IT vendors and intellectual capital was misconstrued as a way of measuring intangibles and publishing information in annual reports during this phase.)
- The third phase is post-1997. In this phase, knowledge creation and innovation were regarded as “hot” and the issues became much more human again. More and more people have come to realise that efficiency is not enough. Creating environments that enable all people to create knowledge are said to generate the real value for corporations and society. People are beginning to realise that human beings are at the core of value creation and not IT systems.

Sveiby (2000b) is of the opinion that it is because of the convictions of this third phase that efforts to manage knowledge (and intellectual capital) are now pursued with considerable success by many leading organisations.

Sveiby (2000a), reports that there are two schools of thought when defining what knowledge is. The first group defines knowledge as a justified true belief. When somebody creates knowledge, he makes sense out of a new situation by holding justified beliefs and

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committing to them. The emphasis in this definition is on the conscious act of creating meaning. The second defines knowledge as a capacity-to-act, (which may or may not be conscious). The emphasis of the definition is on the action element: a capacity-to-act can only be shown in action. Each individual has to re-create his own capacity-to-act and reality through experience. Here knowledge is dynamic, personal, and distinctly different from data (discrete, unstructured symbols) and information (a medium for explicit communication). Sveiby (2000a) is also of the opinion that since the dynamic properties of knowledge are most important for managers, the notion of individual competence can be used as a fair synonym for a capacity-to-act.

It is especially the second definition that is of importance within the context of this study. As a result, further definitions all support the notion of empowerment and ability to do tasks without supervision. It is the contention that modern management has little time for supervision and ensuring that staff members have created the correct meaning. Each employee should be empowered to make informed, knowledge-enabled decisions when necessary.

Wiig's (1997:402) description, in a narrow, practical sense, is that knowledge management is a set of distinct and well-defined approaches and processes. The purpose is to find and manage positive and negative critical knowledge functions in different kinds of operations, identify new products or strategies, augment human resources management, and achieve a number of other, highly targeted objectives. In so doing, knowledge management addresses both managerial "top-down" and individual "bottom-up" activities. Based on this definition he claims that knowledge management focuses on eight important operational areas. This requires that knowledge managers -

- survey, develop, maintain and secure the intellectual and knowledge resources of the enterprise,
- promote knowledge creation and innovation by everyone,

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- determine the knowledge and expertise required to perform effectively, organise the knowledge, make the requisite knowledge available, “package” it (in training courses, procedures manuals or knowledge-based systems, for example) and distribute it to the relevant points-of-action,
- modify and restructure the enterprise to use knowledge most efficiently, take advantage of opportunities to exploit knowledge assets, minimise the value-added knowledge content of products and services,
- create, govern and monitor future and long term knowledge-based activities and strategies, particularly new knowledge investments such as R&D, strategic alliances, acquisitions and important hiring programs based on identified opportunities, priorities and needs,
- safeguard proprietary and competitive knowledge and control use of knowledge to ascertain that only the best knowledge is used, that valuable knowledge does not waste away, and that knowledge is not given away to competitors,
- provide knowledge management capabilities and knowledge architecture so that the enterprise’s facilities, procedures, guidelines, standards and practices facilitate and support active knowledge management as part of the organisation’s practices and culture, and
- measure performance of all knowledge assets and account for them, at least internally, as capitalised assets to be built, exploited, renewed, and otherwise managed as part of fulfilling the organisation’s mission and objectives.

Arora (2002:240) summarises the opinions of other authors by stating that knowledge management has three broad objectives. These are to -

- leverage the organisation’s knowledge,
- create new knowledge and promoting innovation, and
- increase collaboration and hence enhancing the skills level of employees.

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Arora continues by stating that the most common ways to ensure that the stated objectives are reached are to develop a knowledge repository and to nurture communities of practice.

Hackett (2000:22-23) is of the opinion that knowledge can be managed in two ways, namely -

- emergent, self-organising, bottom-up model, or
- centrally designed commonly shared architecture, top-down model.

He advises that, before an organisation embarks on a knowledge management mission, it should first examine whether it exhibits one or more of those elements that predispose it to intensive knowledge management. Elements that typify the need for knowledge management are -

- geographic dispersion,
- rapid growth and high level of turbulence in the work force,
- culture of autonomy,
- strategic mindset,
- highly competitive industry, and
- being aware that your “product” is largely composed of knowledge.

It is very clear that knowledge management is not something that can be practiced in an exclusive centralised department of an organisation. Before the benefits of knowledge management can be reaped, every possible contributor to the knowledge store needs to be enthused by the idea and the environment should be supportive as well as enticing. Most importantly, similarly to what Senge advised in terms of looking at the learning organisation holistically, the bigger picture of inter-connectedness as well as cause-and-consequence need to be understood by all decision makers. It is clear that the previously well-established hierarchical structures of command do not necessarily lead to useful

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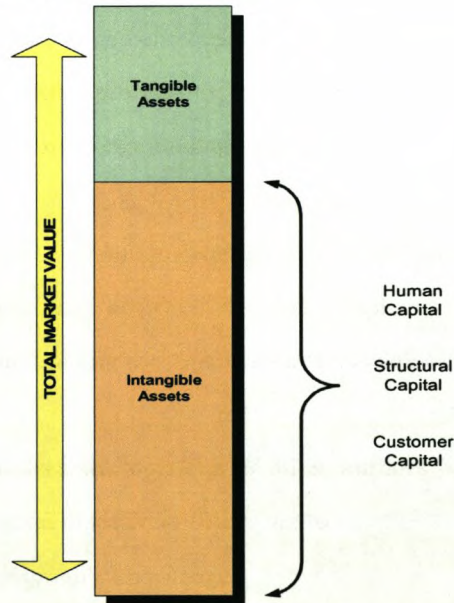
bodies of knowledge. Therefore, every contributor needs to be empowered and motivated for the whole process/system to be implemented successfully.

Intellectual Capital

People first. Strategy second.
Jack Welch

According to Stewart (2001:12), intellectual capital is knowledge that transforms raw materials and makes them more valuable. An organisation's intellectual capital is the sum of its human capital (talent), structural capital (intellectual property, methodologies, software, documents, and other knowledge artefacts), and customer capital (client relationships). The effect that intellectual capital has on the market value of organisations is illustrated in Figure 8.

Figure 8: The Intellectual Capital Model



Source: Stewart, 2001:13

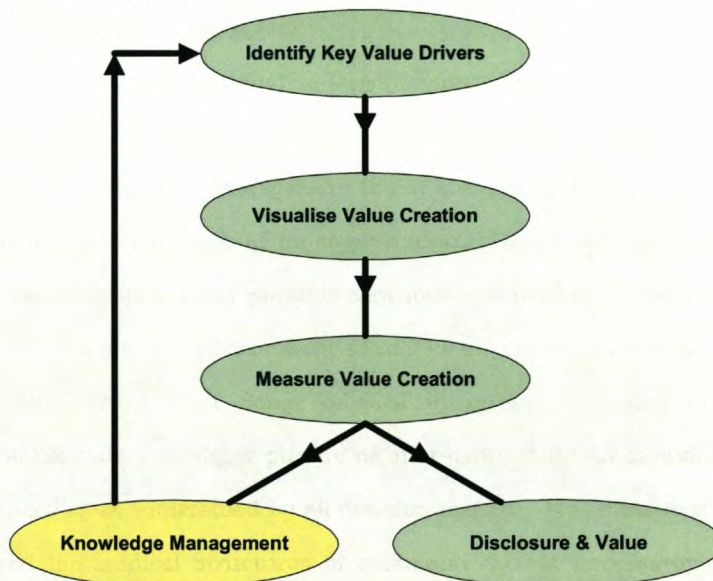
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Today, intellectual capital is recognised as a key strategic asset for organisational performance and its management is critical for the competitiveness of organisations (Roos & Roos, 1997). According to Roos *et al.* (1997) and Marr *et al.* (2003), the management of intellectual capital involves -

- identifying key intellectual capital which drives the strategic performance of an organisation,
- visualising the value creation pathways and transformations of key intellectual capital,
- measuring performance and in particular the dynamic transformations,
- cultivating the key intellectual capital using knowledge management processes, and
- the internal and external reporting of performance.

A visual representation of these steps is shown in Figure 9; each of these steps will be explained briefly below.

Figure 9: The Management of Intellectual Capital



Source: Marr *et al.*, 2003:771

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The first step is to identify the key intellectual capital resources in an organisation. The traditional starting point is the strategy in which organisations identify the most important resources, especially the knowledge resources, in order to achieve their strategic objective. Advocates of the resource based view of the firm, such as Penrose (1959) and later Wernerfelt (1984), Barney (1991) and Zack (1999) view the set of organisational resources as drivers for strategy development. Closely related to intellectual capital are the physical resources (buildings, physical networks) and financial resources (investments, cash) that act as enablers to value creation.

The second step is to visualise how intellectual capital helps to achieve the overall strategic objectives of the organisation. This visual representation of causal relationships or transformations in maps is described by Kaplan and Norton (2000) as strategy maps, by Neely *et al.* (2002) as success maps, and by Gupta and Roos (2001) as a “Navigator” building on the original work of Edvinsson and Roos in Skandia. Such maps are representations of the business logic and they show the assumed value creation pathways that will lead to the achievement of the strategic objectives and satisfaction of key stakeholders. When organisations have mapped the value creation pathways, they can develop performance indicators that help them to understand whether the organisation is successful in implementing its strategy. Building measures around the business hypothesis allows organisations to test the assumptions about how the business works.

The intellectual capital management phase will use the insights gained from identifying, mapping, and measuring knowledge assets. At this stage managers decide whether to cultivate and nurture the existing intellectual capital using knowledge management processes or whether the assumptions of value creation were wrong in which case they have to go back to step one and identify the real drivers of success.

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Stewart (2001:77) proposes a slightly different approach to the management of intellectual capital in a basic four-step process -

- Identify and evaluate the role of knowledge in the business - as input, process, and output. If knowledge exists, does it produce anything or is it sheltered from irritants - real business needs?
- Match the revenues with the knowledge assets that produce them. What are the knowledge assets that exist in which value is created for the business? For example, these could be brands, processes, expertise, and such.
- Develop a strategy for investing in and exploiting the intellectual assets. What are the business imperatives of the organisation that inevitably determine what is budgeted and what is not? What is the substance of the profit model? If it is not around real business needs chances are it is not around knowledge assets.
- Improve the efficiency of knowledge work and knowledge workers. Knowledge work is not linear (hence the question, "what is the job?"). Thus increasing productivity is based on creating and keeping spending customers, - the real business needs.

Very often intellectual capital is only seen as tangible attributes such as formal qualifications, skills, and specific competencies. Less tangible items such as motivation, ideas, and imagination are regarded as less important. Stewart's opinion is that professional intellectual capital, in increasing order of priority, should be seen as -

- cognitive knowledge (know what),
- advanced skills (know how),
- systems understanding (know why), and
- self motivated creativity (care why).

According to Van Deventer (2002:2.34), the first three of these usually exist in the systems, databases, and operating technologies of the company while the last is embedded in the organisation's culture.

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Edvinsson (1997:372) is of the opinion that it is possible to know that one is pursuing the right goals in creating valuable intellectual capital assets when -

- a network of relevant connections has been established and is growing rapidly,
- staff members are making use of collective effort,
- results are achieved from match-making and the exchange of ideas among people,
- the tension between internal and external worlds is managed effectively, and
- there is balance between words and numbers, between differences and similarities, and between the development of intellectual capital cultivation and cost rationalisation.

From the literature consulted it appears that, although it can be developed, intellectual capital cannot necessarily be “taught” through education and training. Bontis (1998:65) as well as Jordan and Jones (1997:392-393) go as far as to say that the most precious knowledge within an organisation often cannot be passed on. The best one could do is to create an environment in which intellectual capital can prosper: a place, or space, where one can feel vibrancy - a fun place where work and a sense of personal accomplishment and success for all are integrated.

Once a pool of knowledge assets has been established, it is of little use if it does not contribute to the organisation’s development. The utilisation of intellectual capital assets should provide the impetus for development and growth within the organisation. The most important utilisation of knowledge assets relates to the transfer of competence between people within an organisation i.e. developing human capital. Therefore, continuous integrated development should be implemented in an organisation. It is imperative that a development process is implemented for all staff whereby all competencies could be developed. This will ensure the ability of all staff to integrate the skills necessary to become future leaders. Organisations should see all employees as an important resource that must be developed through training and skills building

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opportunities to ensure the full utilisation of the organisation's most important resource, namely people or "human capital" (Van der Colff, 2003:4).

Employees' skills, knowledge, and capabilities are among the most distinctive and renewable resources upon which a company can draw and their strategic management is more important than ever. Increasingly organisations are recognising that the success depends on what people know, that is, their knowledge and skills. Human capital is used to describe the strategic value of employee's skills and knowledge (Bateman & Snell, 1999:334).

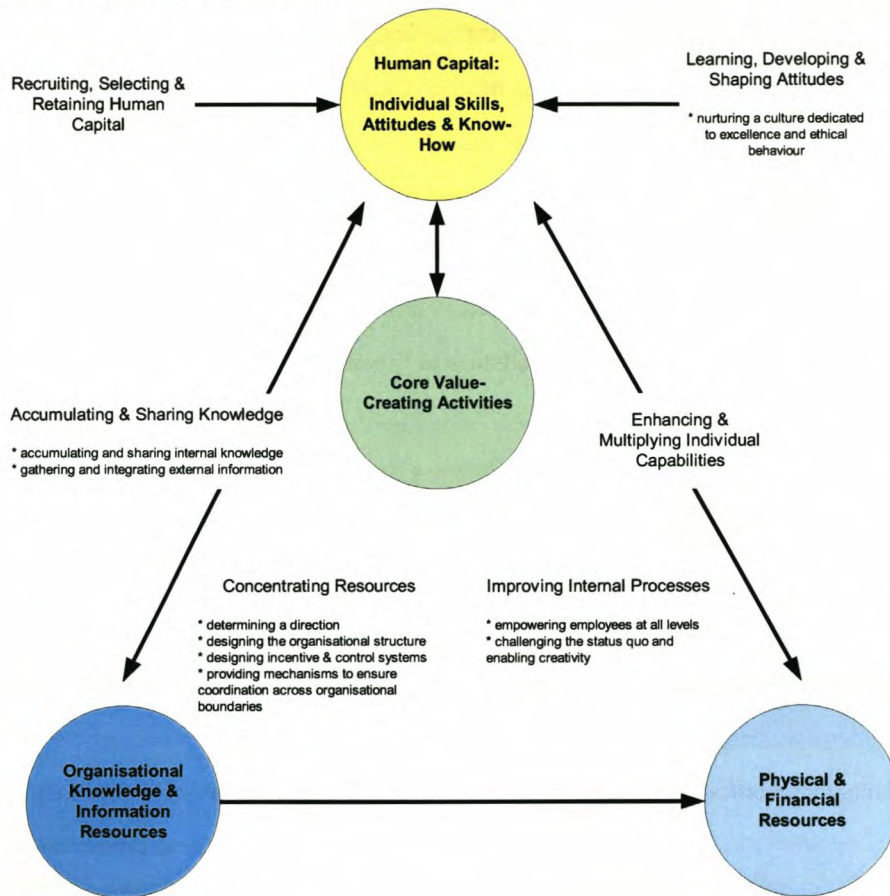
Human capital -

- *Creates Value:* People can increase value through their efforts to decrease costs or providing something unique to customers.
- *Is Rare:* People are a source of competitive advantage when their skills, knowledge and capabilities are not equally available to competitors.
- *Is Difficult to Imitate:* People are a source of competitive advantage when others cannot copy their capabilities and contributions.
- *Is Organised:* People are a source of competitive advantage when their talents can be combined together and rapidly deployed to work on new assignments at a moment's notice. Teamwork and cooperation are pervasive methods for ensuring an organised work force.

According to Dess and Picken (1999:193) to inspire people with a mission or purpose, is a necessary but not a sufficient condition for developing an organisation that can learn and adapt to the rapidly changing, complex, and interconnected environment. To accomplish learning and sustain competitive advantage, organisations need to leverage their human capital and the critical elements of this ongoing process are illustrated in Figure 10.

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Figure 10: Leveraging Human Capital



Source: Dess & Picken (1999:180).

Fortunately, it does appear that, since 1998 more and more organisations have recognised the importance of correctly identifying its intellectual capital. All organisations that pursue intellectual capital management, emphasise that intellectual capital defines the future capabilities of the enterprise. The goal of managing and building knowledge assets is to improve the company's value creation capability through the more effective use of knowledge. Taking this a step further, the goal of intellectual capital is to improve the company's value generating capabilities through identifying, capturing, leveraging and recycling intellectual capital. This includes both value creation (innovation) and value

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extraction (“knowing what you know”) through the development of skills and the sharing and transfer of knowledge.

2.7 SUMMARY

“(We are) ...challenged by the exponential increase in knowledge and knowledge flows, communications capacity and advanced technology, the frequent changes in business and work organisation, the premium now placed on productivity, adaptability and international competitiveness in a global economy, and the progressive shift from primary production to value-added production, knowledge based industries and services. South Africa's learners and workers have to be increasingly well equipped to engage effectively with such changes in their learning and working lives as well as in their personal, social, and civic lives. This means enabling them to continually upgrade their knowledge and skills, develop the cognitive capacity to understand their world and the values to guide their conduct, and adapt constructively to rapid change” (DoL & DoE, 2003:6).

Lifelong learning is now viewed as both a social prerogative and economic necessity. Social and ethical notions of inclusion and increased access to learning at an institutional level underpin educational objectives embodied by the commitment of policy-makers to engage learner participation in learning opportunities throughout life (Leader, 2003:361).

Wiig (1997:399) warns that both knowledge and intellectual capital management are far from the narrow management initiatives that may be considered fads or flavour of the month. He reiterates that knowledge, intellectual assets, and capital must be managed deliberately, systematically and with expertise for organisations to survive.

Bontis (1998:63) agrees that intellectual capital management is not receiving the attention it needs, even though management experts such as Drucker, Nonaka, Quinn, Toffler, Reich, Takeuchi, Von Krogh, and Young have all cautioned that the management of

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knowledge-based intellect will be the most critical skill to sustain the competitive advantage of organisations wanting to flourish within the knowledge economy.

The management of knowledge resources is a process that can be facilitated, but which is not easily controlled. Managers therefore need to understand how to deploy their intellectual capital and knowledge resources more productively while the company employs the “human asset”. This would include putting in place structures and procedures to capture and make available intellectual property that came about due to the deployment of its knowledge resources.

Knowledge management represents, for most organisations, a completely new and different environment in which you are attempting to bring structure and control to that which is typically without boundaries.

Traditional management makes it challenging for people to work across organisational boundaries, share knowledge, and understand - let alone address - the multidimensional problems organisations confront in today's marketplace. It is asserted that an age-old solution with a human face is already at work in the organisation: communities of practice.

Building communities of practice in business has become a priority in knowledge-sharing organisations around the world. Communities in the workplace enable people to quickly build working relationships, share knowledge with those who need it when they need it, and perform well under stress. The warmth of community encourages everyone to share personal accountability for achieving the organization's objectives (Lesser *et al.*, 2000:vii).

Organisations have begun to recognise that knowledge critical to business success is often created and shared by informal groups of individuals with common work practices or interests. This includes both the organisation's explicit knowledge (i.e. knowledge that is

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captured in a written or visual form) and the informal social networks that contain the more tacit forms of knowledge. These communities also serve as the repository for the organisation's memory, preserving valuable insights that can be easily lost in an age of employee mobility and early retirement.

Locally, South African companies such as Sasol, De Beers, and Anglo Gold have implemented communities of practices as part of their knowledge management initiatives and consulting firms such as PriceWaterhouseCoopers provide consulting services on communities of practice. It has also been reported that AgriSA is considering introducing measures that will re-energise the social structures that previously existed around the farmer's co-operatives. It was found that one of the primary reasons why emergent farmers are struggling to succeed on their newly acquired farms is the lack of a social structure to assist these farmers with the knowledge and experiences that are usually exchanged at the farmer's co-operative. In other words - establishing communities of practice.

It is asserted that "communities of practice" can -

- provide organisations with a learning and knowledge management strategy whereby the knowledge resources of the organisation can be effectively managed and leveraged for sustainable competitive advantage in support of business strategies, and
- facilitate the development of skills both in and out of the workplace.

The potential of communities of practice to be accepted as a core element of the National Skills Development Strategy has to be explored and discussed once there is a broad understanding of the nature, structure, support, and value of communities of practice.

The following chapter will therefore explore the structural elements of "communities of practice".

CHAPTER 3

THE NATURE OF COMMUNITIES

A little knowledge that acts is worth more than much knowledge that is idle.
Kahlil Gibran

“People have always created communities, inside and outside of organisations. What is emerging in the new workplace, and in knowledge management initiatives, is the prominence and formality of communities of practice as boundary-spanning units in organisations, responsible for finding and sharing best practices, stewarding knowledge, and helping community members work better. This new role for communities is emerging because they consciously nurture and harness knowledge in service of the organisation” (APQC, 2002e:1).

3.1 INTRODUCTION

This field of knowledge management has gone through the first wave of focus on technology. The second wave dealt with issues of behaviour, culture, and tacit knowledge, but mostly in the abstract. The third wave is now discovering that communities of practice are a practical way to frame the task of managing knowledge. They provide a concrete organisational infrastructure for realising the dream of a learning organisation (Wenger *et al.*, 2002: x).

“We share a vision that communities of practice will help shape society with pervasive knowledge-orientated structures. They will provide new points of stability and connection in an increasingly mobile, global, and changing world” (Wenger *et al.*, 2002: xii).

Why should communities be considered as a learning and knowledge management strategy?

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The defining feature of communities is that they cross boundaries created by workflow, functions, geography, and time. In the modern, knowledge-based, global organisation, communities create a channel for knowledge to flow across the boundaries. Cap Gemini Ernst & Young communities are organised by region, service lines, and industry; DaimlerChrysler tech clubs share design know-how across platform teams; Ford's best-practice replication communities facilitate adoption of proven practices across plants; the World Bank's thematic groups share knowledge in pursuit of the eradication of poverty around the world; and Xerox service technicians share repair tips across their global Eureka network.

In South Africa Sasol uses their communities to "create a culture of networking and learning, supported by company values: customer focus, winning with people, excellence, continuous improvement, and integrity ...and to harness the intangible assets already available in the company: the knowledge of its people and their willingness to learn, and the structured intellectual capital (patents, etc.) it possesses" (Hiscock, 2003:24).

These few examples reveal another feature of communities: they provide the means to move local expertise to collective information and promote standardisation of practices across operations and regions. A less tangible, but equally as important feature of communities is that they strengthen the social fabric of the organisation - a fabric that may have been worn thin by geography and size. People share a common interest, legitimised by business intent, and form relationships that provide social support, excitement, and personal validation. Members collaborate, use one another as sounding boards, teach each other, and strike out together to explore new subject matter.

It has become conventional wisdom that organisations must capitalise on knowledge to be fast, innovative, and successful. Traditional organisational forms, which stressed hierarchy and chains of command, have given way to more decentralised forms of management. Organisations have embraced communities because they enable knowledge-

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sharing relationships, accelerate learning, and enhance successful implementation of projects. Organisations that want to seize opportunities associated with knowledge management depend on communities of practice to propel such critical initiatives.

3.2 WHAT ARE COMMUNITIES OF PRACTICE?

The term “community of practice” is attributed to the (then) Institute for Research on Learning researchers Jean Lave and Etienne Wenger, who first used the phrase in their book *Situated Learning* (1991). Communities of practice, developed in the “organisational learning” movement, posit that knowledge flows best through networks of people who may not be in the same part of the organisation, but have the same work interest (Duguid & Brown, 1991).

Communities of practice are not a new idea. They were the first knowledge-based social structures, when people lived in caves and gathered around the fire to discuss strategies for cornering prey, the shape of arrowheads, or which roots were edible. In ancient Rome “corporations” of metalworkers, potters, masons, and other artisans had both a social aspect (members worshipped common deities and celebrated holidays together) and a business function (training apprentices and spreading innovation). In the Middle Ages, guilds fulfilled a similar role for artisans throughout Europe. Guilds lost their influence during the Industrial Revolution, but communities of practice have continued to proliferate to this day in every aspect of human life. Every organisation and industry has its own history of practice-based communities, whether formally recognised or not (Wenger *et al.*, 2002:5).

“Communities of Practice” is a term that refers to the ways in which people naturally work together. It acknowledges and celebrates the power of informal communities of peers, their creativity, and resourcefulness in solving problems, and inventing better, easier ways to meet their commitments (Pór, 1997).

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According to Halal *et al.* (1998:20) communities of practice are “close-knit groups of like-minded people who manage themselves as a small enterprise devoted to perfecting some set of skills”. A good intelligent infrastructure, according to Halal, therefore consists of a corporate-wide information system and a web of close working relationships connecting entrepreneurial units to common pools of shared knowledge. The result is a “central nervous system” that leverages ordinary learning to powerful new levels, forming an intelligent organisation.

Stewart (1997:96) defines communities as a “group of professionals, informally bound to one another through exposure to common class problems, common pursuit of solutions and thereby themselves embodying a store of knowledge”. He goes further and refers to communities of practice as “the shop floor of human capital, the place where the stuff gets made”. They are peers in the execution of “real work” (Stewart, 1997:23). What holds them together is a common sense of purpose and a real need to know what each other know”. Quoting Gary Hamel, he states, “the pace of economic evolution is a function of the number and quality of interconnections between individuals and the ideas they hold. If wealth creation comes from the number of and quality of interconnections, we’re going to have to create companies that have those connections across them all the time” (Stewart, 2001:202).

This view is echoed by Wenger, McDermott, and Snyder who define communities of practice as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger *et al.*, 2002:4). These people do not necessarily work together every day, but they meet because they find value in their interactions. As they spend time together, they typically share information, insight, and advice. They help each other solve problems. They discuss their situations, their aspirations, and their needs. They ponder common issues, explore ideas, and act as sounding boards. They may create tools, standards, generic designs, manuals, and other documents - or they may simply develop a

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tacit understanding that they share. However, they accumulate knowledge; they become informally bound by the value that they find in learning together. This value is not merely instrumental for their work. It also accrues in the personal satisfaction of knowing colleagues who understand each other's perspectives and of belonging to an interesting group of people. Over time, they develop a unique perspective on their topic as well as a body of common language, knowledge, practices, and approaches. They also develop personal relationships and established ways of interacting. They may even develop a common sense of identity. They become a community of practice (Wenger *et al.*, 2002:5).

Communities of practice therefore appear to be eminently suited as a mechanism or process to facilitate learning in an organisation and more specifically, to develop skills and transfer knowledge. The structure and support of communities will be discussed in the following sections to gain a more in-depth understanding of what it takes to constitute and sustain communities of practice.

3.3 THE STRUCTURE OF COMMUNITIES

Various key components of communities of practice have been discussed in the literature and an overview of the three main perspectives according to author is provided in Table 5.

Table 5: Elements of Communities of Practice

| Author | Elements | | |
|----------------------------------|--|--|---|
| Wenger, McDermott & Snyder | Domain: - the community's knowledge base and understanding of the field in which it resides | Community: - the collection of people and their corresponding roles that form the community | Practice: - the "work" of the community: its actions, learning activities, knowledge repositories, etc. |
| Lesser, Fontaine & Slusher | People: - those who interact on a regular basis around a common set of issues, interests, or needs | Places: - gathering points, face-to- face or virtual, that provide a meeting ground for the community members | Things: - the knowledge objects generated by individuals or collectively by the community |
| Saint-Onge & Wallace | Practice: - the knowledge base, processes and procedures that inform a collection of actions in the delivery of a product or service | People: - the community of practitioners who join together to find ways to rebuild capability required to realise business strategies | Capabilities: - the knowledge base, skills, abilities, attitudes, brands, processes and relationships that result in the ability to undertake actions within the practice. The link between strategy and performance |

Source: Saint-Onge & Wallace: 2003:35

There is a substantial overlap between these perspectives and accordingly Wenger's view (2002:27) of the basic infrastructure of communities is used as the framework to discuss the various elements.

Wenger is of the view that despite different interpretations, communities consist of a unique combination of the following three fundamental elements -

- a domain of knowledge, which defines a set of issues,
- a community of people who care about this domain, and
- the shared practice that they are developing to be effective in their domain.

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Domain

A domain is not an abstract area of interest, but consists of key issues or problems that members commonly experience. The domain creates common ground and a sense of common identity. A well-defined domain legitimises the community by affirming its purpose and value to members and other stakeholders. The domain inspires members to contribute and participate, guides their learning, and gives meaning to their actions. Knowing the boundaries and the leading edge of the domain enables members to decide exactly what is worth sharing, how to present their ideas, and which activities to pursue.

Without commitment to a domain, a community is just a group of friends. A shared domain creates a sense of accountability to a body of knowledge and therefore to the development of a practice. Communities may be more or less explicit about everything that their domain includes, but whether explicit or implicit, the members' shared understanding of their domain - its purpose, its resolved issues, and its open questions - allows them to decide what matters. The domain guides the questions they ask and the way they organise their knowledge.

The domain of a community can range from very mundane know-how to highly specialised professional expertise. It is easier to define a domain when there is already an established discourse, as is the case with a professional discipline, but what brings members together is not always based on recognised topics. What guides the actual learning of the community is an insider's view of the domain. This view may or may not be easily articulated by members, and it may not always align with the organisation, but it shapes the knowledge, values, and behaviours to which they hold each other accountable.

Whatever creates the common ground, the domain of a community is its *raison d'être*. It is what brings people together and guides their learning. It defines the identity of the community, its place in the world, and the value of its achievements to members and to others. In this regard, the identity of the community depends in good part on the

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importance of its domain in the organisation, which in turn makes the domain important to members. A domain is not a fixed set of problems. It evolves along with the world and the community. In any domain, new issues periodically arise and generate fresh energy. As these issues are solved and new ones appear as changing circumstances pose new challenges and as the next generation of members bring fresh perspectives, the community's sense of what it is about evolves and grows. Yet, through these changes, the community maintains a sense of identity rooted in a shared understanding of its domain.

The most successful communities of practice thrive where the goals and needs of an organisation intersect with the passions and aspirations of participants. If the domain of a community fails to inspire its members, the community will flounder. Moreover, if the topic lacks strategic relevance to the organisation, the community will be marginalised and have limited influence. This intersection of personal meaning and strategic relevance is a potent source of energy and value. Domains that provide such a bridge are likely to inspire the kind of thought leadership and spirit of inquiry that are the hallmarks of vibrant communities of practice. A well-developed domain becomes a statement of what knowledge the community will steward. It is a commitment to take responsibility for an area of expertise and to provide the organisation with the best knowledge and skills that can be found. In turn, when an organisation acknowledges a domain it legitimises the community's role in developing the skills of its staff and transferring knowledge.

Community of People

The community creates the social fabric of learning. A strong community fosters interactions and relationships based on mutual respect and trust. It encourages a willingness to share ideas, expose one's ignorance, ask difficult questions, and listen carefully. Community is an important element because learning is a matter of belonging as well as an intellectual process, involving the heart as well as the head.

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Lesser and Storck (2001:831) suggest that communities should be viewed as “an engine for the development of social capital”. They quote Nahapiet and Ghoshal and define social capital as “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit”. Further, they express social capital in terms of three primary dimensions -

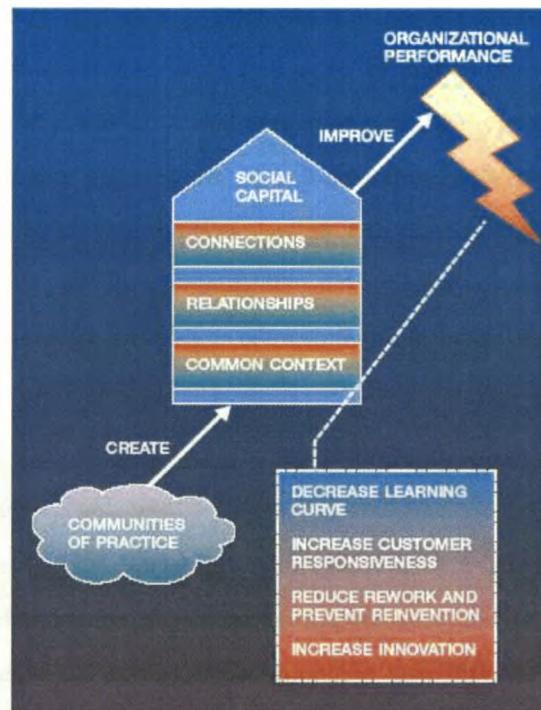
- There must be a series of connections that individuals have to others. In other words, individuals must perceive themselves to be part of a network (the structural dimension). Fundamentally, the structural dimension of social capital refers to the ability of individuals to make connections to others within an organisation. These connections “constitute information channels that reduce the amount of time and investment required to gather information”.
- A sense of trust must be developed across these connections (one aspect of the relational dimension). The development of the interpersonal relationships reinforces the initial connections between individuals. There are four components to this relational dimension: obligations, norms, trust, and identification. Obligations refer to a sense of mutual reciprocity, for example, the willingness to return a favour with a favour. Norms include the setting of common standards of behaviour that individuals are willing to abide by. Trust involves the predictability of another person’s actions in a given situation, whereas identification refers to the process whereby individuals see themselves as united with another person or set of individuals.
- The members of the network must have a common interest or share a common understanding of issues facing the organisation (the cognitive dimension). To the extent that people share a common language, this facilitates their ability to gain access to people and their information. To the extent that their language and codes are different, this keeps people apart and restricts their access. This use of common language includes, but goes beyond languages, such as English, Spanish, Japanese, etc. It also addresses the acronyms, subtleties, and underlying assumptions that are the staples of day-to-day interactions. Further, this idea of a

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common context can also be extended to the use of shared narratives or stories that can enable individuals to make sense of their current work environment and their relative role within it.

The vehicle through which communities are able to influence organisational performance is the development and maintenance of social capital among community members. By developing connections among practitioners, who may or may not be co-located, fostering relationships that build a sense of trust and mutual obligation, and creating a common language and context that can be shared by community members, communities of practice serve as generators for social capital. This social capital, in turn, creates an environment in which business performance is positively impacted. Figure 11 illustrates this process.

Figure 11: Communities and Organisational Performance



Source: Lesser & Storck, 2001:833

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According to Lesser and Storck (2001:831) the social capital resident in communities of practice leads to behavioural changes, which in turn positively influence business performance particularly in the following areas -

- decreasing the learning curve of new employees,
- responding more rapidly to customer needs and inquiries,
- reducing rework and preventing “reinvention of the wheel”, and
- spawning new ideas for products and services.

A common challenge faced by many companies is the need to rapidly increase the productivity of new employees. As employee mobility continues to increase across organisations, the ability to quickly assimilate individuals into the methods, tools, and activities of a new position represents an important capability. This task becomes especially important in dispersed organisations where an employee’s direct supervisor may be located across town, or in a different country altogether. Lesser and Storck found that communities of practice enabled new practitioners to “get wired” into the organisational memory and made it easier to learn both the technical and cultural aspects of their new roles and responsibilities (Lesser & Storck, 2001:836).

The community element is critical to an effective knowledge structure. A community of practice is not just a Web site, a database, or a collection of best practices. It is a group of people who interact, learn together, build relationships, and in the process develop a sense of belonging and mutual commitment. Having others who share your overall view of the domain and yet bring their individual perspectives on any given problem, creates a social learning system that goes beyond the sum of its parts. Members use each other as sounding boards, build on each other’s ideas, and provide a filtering mechanism to deal with “knowledge overload”.

Interpersonal relationships are also critical. To build a community of practice, members must interact regularly on issues important to their domain. Moreover, these interactions

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must have some continuity. Interacting regularly, members develop a shared understanding of their domain and an approach to their practice. In the process, they build valuable relationships based on respect and trust. Over time, they build a sense of common history and identity.

The concept of community often connotes commonality, but homogeneity is not a hallmark of an ideal community of practice. Although long-term interaction does create a common history and communal identity, it also encourages differentiation among members. They take on various roles, officially and unofficially. They create their own specialties or styles. They gain a reputation. They achieve a status and generate their own personal sphere of influence. In other words, each member develops a unique individual identity in relation to the community. Their interactions over time are a source of both commonality and diversity. Homogeneity of background skills or point of view may make it easier to start a community of practice, but it neither is a required condition nor is it a necessary result. In fact, it is not even an indicator that a community will be more tightly bonded or more effective. With enough common ground for ongoing mutual engagement, a good dose of diversity makes for richer learning, more interesting relationships, and increased creativity.

Community participation is often voluntary, with individuals opting to play different roles with varying levels of intensity and time commitment. Some individuals will serve as the nucleus, directing and shaping the community's direction and resource allocation. Others will operate on the periphery, tapping into the community knowledge and insight as needed. To maintain the relationships between individuals, formal roles and responsibilities are sometimes developed to improve the community's effectiveness. All communities of practice depend on internal leadership, but healthy communities do not depend entirely on the leadership of one person. Leadership is distributed and is a characteristic of the whole community. Recognised experts certainly help to legitimise the community's role and voice, but they are not necessarily the ones who bring the

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community together or take the initiative to explore new territory. Leadership roles in a community of practice can be very diverse and could include roles such as community organisers, experts, thought leaders, pioneers, administrators, and boundary spanners. Roles may be formal or informal and they may be concentrated in a small subgroup or widely distributed. However, in all cases, those who undertake leadership roles must have internal legitimacy in the community. External leadership roles are also important, especially as communities mature, because communities depend on external sponsors for access to influence and resources and for building credibility with teams and business units (Wenger *et al.*, 2002:37).

Learning requires an atmosphere of openness. Each community develops a unique atmosphere - intense or relaxed, formal or informal, hierarchical or democratic. Whatever norms members establish, the key is to build a foundation for collective inquiry. An effective community of practice offers a place of exploration where it is safe to speak the truth, ask hard questions seek advice and develop own knowledge by way of acquiring skills and knowledge transfer.

Practice

The “practice” is a set of frameworks, ideas, tools, information, styles, language, stories, and documents that community members share. Whereas the domain denotes the topic the community focuses on, the practice is the specific knowledge the community develops, shares, and maintains. It refers to a set of socially defined ways of doing things in a specific domain: a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance, and accountability. These communal resources include a variety of knowledge types - cases and stories, theories, rules, frameworks, models, principles, tools, experts, articles, lessons learned, best practices, and heuristics. It includes both the tacit and the explicit aspects of the community’s knowledge. It ranges from concrete objects, such as a specialised tool or a

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manual to less tangible displays of competence, such as an ability to interpret a slight change in the sound of a machine as indicating a specific problem. The practice includes the books, articles, knowledge bases, Web sites, and other repositories that members share. It also embodies a certain way of behaving; a perspective on problems and ideas, a thinking style, and even in many cases an ethical stance. In this sense, a practice is a sort of mini-culture that binds the community together. Through its practice - its concepts, symbols, and analytic methods - the community operates as a living curriculum.

When a community has been established for some time, members expect each other to have mastered the basic knowledge of the community. This body of shared knowledge and resources enables the community to proceed efficiently in dealing with its domain. This does not mean that all members are cognitive clones. People specialise and develop areas of individual expertise. They may belong to slightly different schools of thought but they share a basic body of knowledge that creates a common foundation, allowing members to work together effectively. A community's practice explores both the existing body of knowledge and the latest advances in the field. As a product of the past, it embodies the history of the community and the knowledge it has developed over time. At the same time, the practice is oriented to the future - it provides resources that enable members to handle new situations and create new knowledge. A shared practice supports innovation because it provides a language for communicating new ideas quickly and for focusing conversations.

An effective practice evolves with the community as a collective product. It is integrated into people's work. It organises knowledge in a way that is especially useful to practitioners because it reflects their perspective. Each community has a specific way of making its practice visible through the ways that it develops and shares knowledge. Some use stories while others document formulas and procedures in articles. In each case, the mode of communicating and capturing knowledge matches the demands of actual use.

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A community must have a shared understanding of what aspects of its domain are codifiable and which are not, and what to do in each case. Successful practice development depends on a balance between activities, in which members explore ideas together, and the production of “things” like documents or tools. It involves an ongoing interplay of codification and interactions, of the explicit and the tacit. The twin goals of interacting with peers and creating knowledge products complement each other. On the one hand, the goal of documenting and codifying focuses community activities, and on the other hand, these activities give life and legitimacy to the documentation.

Successful practice building goes hand-in-hand with community building. The process must give practitioners a chance to gain a reputation as contributors to the community’s practice. In addition, there must be a process by which the community validates and endorses new submissions as accepted communal knowledge. Debates about practice frame works and methods allow the community to own its standards. Agreeing on standards and best practices inevitably involves disagreements and conflicts. When this process takes place in the context of an ongoing community, however, each specific debate is part of a larger debate to which members have committed. This ongoing commitment puts the process of dealing with disagreement in perspective (Wenger *et al.*, 2002:40).

Conclusion

When they function well, together these three elements make a community of practice an ideal learning and knowledge sharing structure - a social structure can assume responsibility for developing, maintain and transferring knowledge. Through the interaction of people, places, and things, communities help individuals develop a sense of identity within their organisation. This is especially critical given the cultural changes in modern organisations, such as flexitime workers, telecommuters, and work teams that interact across time and space. As more and more people “go virtual” and they find themselves working with individuals who they typically do not see on a day-to-day basis,

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communities fill an important void to maintain the social and intellectual relationships that often suffer as a result of geographical dispersion (Lesser *et al.*, 2000:viii-x).

Not only do communities help people make connections that are vital to learning new skills, they also help make sense of the larger environment and provide a mechanism for transferring and sharing critical knowledge across the organisation.

3.4 TYPES OF COMMUNITIES

Introduction

A community of practice performs two main jobs of human capital formation - knowledge transfer and innovation (Stewart, 1999:97).

Traditionally the term community implies an informal network a group of people who communicate with each other because they want to. This definition of community still stands in society and to some extent in organisations as well.

In studying the various best-practice organisations that served as partners in APQC's *Building and Sustaining Communities of Practice* study (2002b), APQC found that a community could be a highly structured group that follows well-defined procedures for sharing practices or a very informal, loose collection of individuals sharing ideas. Some communities are democratic; others are as hierarchical as the organisations in which they reside. Some focus on writing or capturing and organising practices; others provide a forum for members to discuss and test ideas.

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A community's form is primarily determined by its strategic intent. APQC and Richard McDermott, who served as a subject matter expert for APQC's study, identified four types of communities based on their strategic intent -

- *Helping communities* - to provide a forum for community members to help each other solve everyday work problems,
- *Best-practice communities* - to develop and disseminate best practices, guidelines, and procedures for their members to use,
- *Knowledge-stewarding communities* - to organise, manage, and steward a body of knowledge from which community members can draw, and
- *Innovation communities* - to innovate and create breakthrough ideas, knowledge, and practices.

The type of community is a strong indicator of the knowledge and practices it focuses on, key activities it undertakes, its structure, and its leadership roles. However, it should not be assumed that communities serve just one purpose. Many communities have multiple intents, but they usually focus on one. A community's strategic intent requires specific processes and activities to fulfil its purpose. The following discussion considers the essential character and business drivers of each type of community.

Helping Communities

As companies become more team-based and more globally focused, professionals become more isolated from each other. Because their work often involves complex analysis, input from peers is often a critical, though informal, part of their work. Informal and peer-focused helping communities preserve advisory and thinking relationships, even in cross-geographical structures (APQC, 2002b).

Helping communities can be powerful forces in the organisation. They provide an outlet for informal discussions concerning individual practices and technical problems.

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Members build trust among each other to truly admit problems and spontaneously share ideas. These communities focus on connecting members so they can ask for help, learn from the expertise of other members, and understand each other's perspective.

Helping communities exist in practically every organisation. They are, however, very small, and members are added by invitation only by other members in the network. As organisations formalise these communities, they create a forum to connect people in separate teams, geography, or business units. With a mechanism in place, the organisation allows the members to decide what knowledge to share, how to assess its value, and how to disseminate good ideas to the rest of the community or the whole organisation.

Although all types of communities attempt to reduce costs, helping communities approach the task in a unique way. Because helping communities focus on peer-to-peer relationships, they reduce costs by sharing information and practices developed or used throughout the organisation. The organisation may also benefit through lower turnover and higher morale. Due to its informal nature, the majority of knowledge shared within a helping community is typically tacit which is then externalised through socialisation.

Best Practice Communities

The strategic intent of best-practice communities is to develop, validate, and disseminate proven practices. Whereas helping communities rely on member's knowledge to verify new practices and prompt sharing through help requests and individual insights, best practice communities have a specific process to verify the effectiveness and benefit of practices and expect members to continuously develop and implement practices. Because structured vetting processes are an inherent attribute of best-practice communities, their success depends on sharing documented practices (APQC, 2002a).

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Best-practice communities create cost reductions as well as maintain consistency and quality among dispersed groups by standardising practices. Through standardised learning, members ensure that lessons are disseminated throughout the organisation. Standardisation, rather than individual helping relationships, allows a best-practice community to thrive in areas with a concrete application of knowledge. This type of community lends itself to a focus on explicit knowledge. The knowledge is codified and stored so it can be shared in a structured manner.

Organisations also depend on best-practice communities to preserve knowledge in the face of turnover and retirement. Many organisations expect large portions of their experienced, knowledgeable work forces to retire in the next decade. Best-practice communities provide a means to capture some of that valuable knowledge and codify it to pass on (APQC, 2002d).

Knowledge-Stewarding Communities

Although most companies realise the importance of cost savings, consistency, and utilising technology, an ultimate accomplishment for any organisation is to have a group of individuals that will organise, develop, and disseminate the organisation's knowledge in their area of expertise. A knowledge-stewarding community does just that. Like the aforementioned communities, knowledge-stewarding communities host forums for members to connect, develop, and verify practices, but the main intent of these communities is to organise, upgrade, and distribute the knowledge their members use on a day-to-day basis.

Organisations need standard arrangements for their front-line staff to access knowledge that allows them to remain competitive. Knowledge-stewarding communities collect and analyse technology trends, and community members can ask people on other projects about emerging technologies. Because most technology developments occur outside an

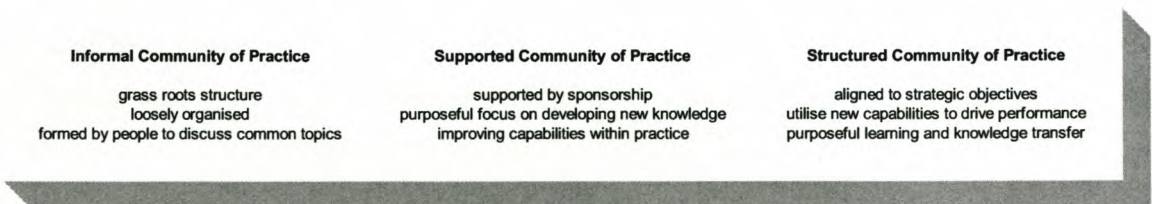
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organisation, such a community can find outside contacts to deepen the community’s understanding of technology trends and allows the community to set an expiration date on disseminated ideas and information relating to emerging trends.

By identifying the strategic intent and thus the type of community appropriate for the organisation, the design process designs itself. The four community types have distinctive activities, structures, and relationships within the community. The type of community also will have a significant effect on how communities are supported and integrated into the organisation.

Saint-Onge and Wallace (2003:35) draws a distinction between the types of communities according to their characteristics and states that the various types can be viewed as a continuum as shown in Figure 12.

Figure 12: Types of Communities



Source: Adapted from Saint-Onge & Wallace, 2003:37-38

Communities of practice have certain unique characteristics that differentiate them from other organisational forms and each community type demands that different roles contribute to the functioning of such communities. The characteristics and roles of communities will be discussed in the following sections.

3.5 THE CHARACTERISTICS OF COMMUNITIES

Saint-Onge and Wallace state that there are a number of general characteristics that can be seen across all types of communities (Saint-Onge & Wallace, 2003:39).

Generally speaking, communities -

- *Utilise productive enquiry* - communities of practice exist to find answers to questions that are situated in practice. Members have a high degree of “need to know” and have found that by asking questions within the community, the responses are situated in experience and directly related to the realities of work.
- *Self-manage* through a governance structure, principles and conventions, the shared leadership of members, and some form of facilitation - communities are not just amorphous shapes that lumber along. They have purpose, direction, and a way to self-organise to meet their goals.
- *Generate knowledge that supports the practice* - through productive inquiry, access to internal and external information, and contributions of members, new knowledge objects are created by the community that forms the content or domain of their practice.
- *Self-govern based on agreed-upon conventions* - the members govern the community through norms and guidelines that have been developed through consensus within the community, not imposed by the organisation.
- *Assume accountability for supporting one another* - the community exists as a resource for its members. It takes full responsibility for providing an effective and productive forum. Within this context, each member assumes the responsibility to support fellow members as required.
- *Collaborate via multiple channels* - communities utilise a variety of synchronous and asynchronous forms of collaborative tools, including face-to-face meetings, to enable their discussions.

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- *Receive support from the organisation* - while the organisational support may not be directly given or accepted by any given community, there exists within the organization an acknowledgement of the social nature of learning and the benefits of providing opportunities for employees to collaborate and learn.

Above all, communities of practice share a common purpose in that -

- there is a desire to collaborate with colleagues and peers,
- there is a commitment to learning and generating new capabilities, and
- there is a need to find a solution to issues or problems related to their area of expertise.

These characteristics influence the typical roles found within communities and the various roles are discussed below.

3.6 ROLES WITHIN A COMMUNITY

According to the APQC (2002b:27) organisations' increasing reliance on communities is evident from the integration of communities into the budgeting and planning process. Consequently, communities have assumed a more formal role and the roles of members are formalising. Community members often are held accountable for producing and stewarding knowledge, saving time and money, and assuming an influential standing in the organisation. Roles differ according to strategic intent and host organisation, but the roles that are required for the successful initiation of a formal community are -

- *Sponsor* - a community sponsor, who can be a high-level executive or a mid-level manager, supports the community through funding, promotion, or tapping human resources.
- *Leader* - as the architect of the community, the leader passionately develops the topic or specialty area. Responsibilities involve ensuring newly acquired knowledge

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is used to the advantage of the organisation. In small communities, the sponsor can also be the leader.

- *Member* - obviously, this is the most common role in a community. The member's responsibility is to carry out the strategic intent by providing personal input and taking advantage of the community's output.

Saint-Onge and Wallace (2003:44) identify several additional roles -

- *Sparkers* - the debate triggers. They identify gaps in the practice or needs for new capabilities or approaches, ask questions, pose problems, and point out shortfalls and discrepancies. They may or may not contribute to the resolution, but they are first to identify an issue that needs to be resolved and are soon on to the next.
- *Synthesizers* - the summarians. They help the community create meaning. They set the context, provide the history, and outline the successes or failures that came before the current issue. They summarise how far the community has come, marking the tally of accomplishments.
- *Sole Contributors* - the advisors. They come into the community discussion and contribute from their own vantage points. They provide a rather "take it or leave it" response, contribute a possibility, and do not actively try to persuade anyone to their viewpoint. They state their case and offer their situation as an example, and that typically ends their participation for the time being.
- *Witnesses* - the testimonial providers. They support a position and idea with their "vote of confidence". They provide credibility to an idea, reinforcing a point of view with their own experience.
- *Champions* - the cheerleaders. Probably the most actively involved member(s) of the community. People who have a keen interest in the success of the community and assume a leadership role. They have something to say about everything, out-distance the pack in log-ins and contributions. They know the community inside and out and actively promote the community's value to the outside world.

- *Lurkers* - seen but not heard. They visit the community on a regular basis, but their participation is limited to viewing the community contributions. They do not contribute themselves, but find value in seeing what is being said and using the resources that are provided.
- *Steering/Advisory Group Members* - members of the community and possibly the organisation who take a leadership role, drafting policies, identifying procedures, and encouraging the community's development.

Further roles such as those of IT specialists, subject matter experts, content managers, and librarians also are valuable in sustaining communities of practice. According to the APQC (2002a:27-28) the more complex the strategic intent of the community is, the more roles are required to sustain it.

The definition and allocation of roles should however not create an illusion that communities of practice are nothing more than the well-known project teams and work groups that exist in organisations. A distinction will be drawn in the following section between communities of practice and other forms of organisational groupings such as teams and workgroups

3.7 TEAMS, NETWORKS AND COMMUNITIES

A community of practice is a group of people who shares a specific expertise or interest and is bound by a common mission or purpose. Members identify with the group's expertise and seek to enhance their own. Unlike teams or workgroups, they are not bound by a fixed project, agenda, or set of deliverables. They produce information, insights, and best practices - simply put, knowledge.

A community's operation cannot be confused with team projects. Whereas teams focus on an achievable goal, such as bringing a new product to market, communities focus on sharing ideas and insights. Teams often share ideas and learn together, and communities often spawn project teams. However, communities generally fill in the gaps between organisational units (APQC, 2002a:29).

Several traits define communities of practice and distinguish them from other groups -

- they have a history, developing over time,
- a community of practice has an enterprise, but not an agenda, that is, it forms around a value, and
- the enterprise involves learning, as a result, over time communities of practice develops customs and culture (Stewart, 1999:96).

The major differences are summarised in Table 6.

Table 6: A Snapshot Comparison

| | Purpose | Membership | Intent | Duration |
|--------------------------------------|--|--|---|---|
| Informal Network | To collect and pass on business & social information | Business acquaintances & friends | Mutual needs and relationships | As long as people have a reason to connect |
| Project Team | To accomplish a specific task | People who have a direct role in accomplishing the task | The project's milestones & goals | Predetermined ending (when the project has been completed) |
| Operational Team | To take care of an ongoing operation or process | Membership assigned by management | Shared responsibility for the operation | Intended to be ongoing (but last as long as the operation is active) |
| Formal Departments Work Group | To deliver a product or service | Everyone who reports to the group's manager | Job requirements & common goals | Intended to be permanent (but lasts until the next business reorganisation) |
| Community of Practice | To develop individual members' capabilities and to create and exchange knowledge | Self selection based on expertise or passion for a topic | Passion, commitment, & identification with the group and its' expertise | As long as there is a need & interest in maintaining the group because of the shared relevance of the topic and interest in learning together |

Source: Adapted from Hiscock (2003) and Wenger *et al.* (2002:42)

With these identified traits in mind, the following section will focus on the challenge of distributed or “virtual communities”.

3.8 THE CHALLENGE OF DISTRIBUTED COMMUNITIES

Introduction

The discussion thus far has presupposed the geographical coexistence of communities where personal interaction can occur in a person-to-person synchronous manner.

With organisations becoming increasingly global in nature and with the need to share knowledge across organisational boundaries, an increasing number of communities are becoming distributed across place and time with interaction taking place by means of information and telecommunications technologies such as the Internet. Wenger *et al.* (2002:115) defines “distributed communities” as a community of practice that cannot rely on face-to-face meetings and interactions as its primary vehicle for connecting members.

Alavi and Leidner (1999) argue that “traditionally, knowledge creation and transfer have occurred through various means such as face-to-face interactions (planned or *ad hoc*), mentoring, job rotation, and staff development. However, as markets and organisations become more global and move to virtual forms, these traditional means may prove to be too slow and less effective and in need of being supplemented by more efficient electronic means”.

Anderson (1997) suggests that people will work in “an interconnected environment supporting communication, collaboration, and information sharing within and among office and non-office work activities - both within and among enterprises; with office systems, groupware, and intranets providing the bonding glue”.

A first step to attain such an interconnected environment is to have information and explicit knowledge components online, indexed, and mapped, so people can see what is available and can find it. An example of this technology is an intranet containing digitally

stored documents and/or online “yellow pages” (a navigational aid to identify people by expertise, community, skills, interests, and affiliation. Sasol has implemented their “Blue Pages” intranet listing employee skills, expertise, project experience, and hobbies (Hiscock, 2003:26).

A second step supports communication between people, assists in the use of best practices to guide future behaviour, and enables the sharing of ideas. Examples are e-mail, bulletin boards, and discussion databases.

The third step amounts to facilitating shared creation and capturing of tacit knowledge in forums such as communities of practice. Examples of this technology are groupware, electronic conferencing, screen sharing, application sharing, and electronic whiteboards in which multimedia, interactive, and animation techniques can be applied.

In the fourth step, technology offers a virtual space in which a team can collaborate interactively, irrespective of geographic distribution of the team members or time. Anderson (1997) believes that the virtual or shared space moves users further into the substitution for “being there” by enabling them to “be somewhere else” together. An example of this technology is a networked virtual environment.

The nature of distributed communities

A distributed or online community consists of -

- people, who interact socially as they strive to satisfy their own needs or perform special roles, such as leading or moderating,
- a shared purpose, such as an interest, need, information exchange, or service that provides a reason for the community,
- policies, in the form of tacit assumptions, rituals, protocols, rules, and laws that guide people’s interactions, and

- computer systems, to support and mediate social interaction and facilitate a sense of togetherness (Preece, 2000:10).

Typically, distributed communities cross multiple types of boundaries. Geographically, distributed communities of practice link people across time zones, countries, and organisational units. Like local communities, they share ideas and insights, help each other, document procedures, and influence operating teams and business units. They also knit organisations together. In an era of globalisation and worldwide communication networks, distributed communities are increasingly the norm.

Of course, all communities are distributed to some degree. They typically attract members from different parts of the organisation, different floors, and even different locations. However, linking large numbers of people across vast distances, major organisational boundaries, and different cultures presents a new set of issues. When these four factors - distance, size, organisational affiliation, and cultural differences - are compounded, they make building and sustaining communities significantly more difficult (Wenger *et al.*, 2002:116).

Distributed community developers therefore have to design applications that support both sociability and usability. Sociability focuses on social interaction; usability focuses on human-computer interaction. Understanding a community's needs is essential for developing communities with the role attributes as shown in Figure 13.

Figure 13: Usability & Sociability



Source: Preece, 2000:209

Sociability is concerned with the collective purpose of a community, the goals and role of the individuals in a community, and policies generated to shape social interaction, which all influence social interaction in the community (Preece, 2000:7).

Usability is concerned with developing computer systems to support rapid learning, high skill retention, and low error rates. Such systems support high productivity; they are consistent, controllable, and predictable, which makes them pleasant and effective to use. The implication for distributed communities is that members are able to communicate with each other, find information, and navigate the community software with ease.

These attributes have a direct bearing on learning and knowledge transfer as the Internet has inspired an avalanche of distance education courses using a variety of software and aimed at various learning communities. Most educators promote constructivist learning which advocates learning through social interaction and by exploring and building things

in meaningful, authentic, real-world contexts. Preece (2000:121) states that for “learning communities” to be successful, they must support the following needs of learners -

- *resources* - to communicate within the community and to access information and experts,
- *guidance* - community leaders need to be able to guide knowledge transfer initiatives,
- *feedback* - mechanisms to respond to views need to be provided, and
- *enjoyment* - when learning is fun it is more meaningful and accordingly features that encourage sharing, empathy, trust, support and collaboration as well as features that discourage aggression, self-and ego-centred behaviour need to be incorporated into the online community.

Key issues facing distributed communities

Wenger *et al.* (2002:115-119) detail the following key issues facing distributed communities -

- *Distance: Connections and Visibility:*

Different time zones and geographic separation obviously make it more difficult for community members to connect. They have to resort to technologies that are not real substitutes for face-to-face interactions. However, the distance is not just physical; the community itself tends to feel more remote. Distance simply makes it more difficult to remember that the community exists. Of course, the “presence” of the community is always an issue. Because even local communities typically cross boundaries, there is usually some physical distance between community members. However, members located in the same building or town often see each other by chance - in the passage, in the lifts, at meetings, or in the cafeteria. They can meet relatively easily to share ideas or collaborate. Most important, local communities typically have regular face-to-face meetings where they see other community members. Thus, local community members can easily connect with

each other, even when they are only marginally engaged in the community. Distributed communities are generally less “present” to their members. Unlike in-person meetings, teleconferences and Web sites do not offer easy opportunities for informal networking. Because of these barriers, it takes more intentional effort for members to consult the community for help, spontaneously share ideas, or network with other members.

- *Size: Knowing People*

Because distributed communities usually draw from a wider base of membership, they can be very large, frequently hundreds of members and sometimes over a thousand. It is not possible to know that many people personally, even in a face-to-face meeting, let alone with the mediation of technology. When compounded with distance, size becomes an even more significant factor.

- *Affiliation: Priorities and Intellectual Property*

Distributed communities typically cross more organisational boundaries than do local groups. Distributed communities can cross divisions of the same company, different business units within the same company, or entirely different businesses. Even though the various business units in global communities might be part of the same overall organisation, each has its own goals and priorities, which sometimes conflict. Large, global communities often have more trouble than local ones in getting senior managers with conflicting priorities to genuinely buy-into the idea of sharing knowledge with other companies or business units. This is complicated by the need to develop criteria for dealing with intellectual property issues that might be viewed as a source of competitive advantage by the various members.

- *Culture: Communication and Values*

Distributed communities are also likely to cross cultures. National cultures are the most obvious type, but organisational and professional cultures can also present

problems in diversified companies or when there has been a lot of merger and acquisition activity. People from different cultural backgrounds can have very different ways of relating to one another and to the community, and this is likely to affect the development of global communities. People's willingness to ask questions that reveal their "ignorance", disagree with others in public, contradict known experts, discuss their problems, follow others in the thread of conversation - all these behaviours vary greatly across cultures.

Cultural differences can easily lead to communication difficulties and to misinterpretation. Successful distributed communities have to learn to address cultural differences without either minimizing them or stereotyping people. Language differences also introduce a very basic barrier to communication. They can intensify cultural boundaries, even when all parties agree to speak a common language. Non-native speakers may not understand the nuances and connotations behind certain terms or may hesitate to speak if they are uncertain of their ability to express themselves effectively. This can be further complicated when participants are speaking over the phone. . Because computer-mediated conversations take place in writing, non-native speakers sometimes feel more comfortable contributing since they have time to check their text before posting.

Access to technology can be a barrier to communication. Communities are based on the connections of members. If simply connecting is difficult, people are less likely to make the effort, at least not regularly. Special effort to connect members raises the costs of participation - in terms of time and effort; increases the inertia the community needs to overcome, and makes it even more important that the community deliver tangible value for its members.

3.9 COMMUNITIES AS ORGANISATIONAL FORM

For years, organisations of all types have had informal communities. Hidden deep inside organisational silos, structures, and policies, these communities of practice have flourished because the people in them had burning needs or desire to come together to exchange their rich and tacit knowledge.

Why?

It helped them accomplish their work better, faster, and cheaper. Left alone, these communities may or may not have continued to exist; and they may or may not have leveraged their knowledge or learning to the enterprise at large. What is new is the emerging prominence and formality of communities of practice as boundary-spanning units in organisations as the pre-eminent method to identify experts and best practice in order to leverage the knowledge assets available to the organisation.

How do leading organisations identify experts, share knowledge, and innovate? Increasingly, communities are becoming the core knowledge strategy for global organisations. As groups of people who come together to share and learn from one another face-to-face and virtually, communities of practice are held together by a common interest in a body of knowledge and are driven by a desire and need to share problems, experiences, insights, templates, tools, and best practices. Communities channel knowledge flow and promote consistent and standardised knowledge sharing throughout an organization. These communities provide organisations with the structures and processes needed to quickly identify and exchange valuable knowledge capital to drive business results.

Saint-Onge and Wallace refers to “communities of practice with a strategic purpose” (Saint-Onge & Wallace, 2003:40-41). According to the authors, these communities have

been purposefully built to meet a strategic objective and leveraging the knowledge capital of this specific type of community has the most significant effect on creating competitive advantage because of the alignment with strategic objectives.

A community of practice with a strategic purpose exhibits all of the characteristics of the formal, highly structured, or engineered community. That is, the community is -

- supported by resources (e.g., infrastructure, facilitation, materials),
- encouraged by the sponsors through recognition of the members' efforts,
- promoted as an example of best practice, and
- valued for its contribution.

A community situated in a strategic context has a high sense of purpose that is developed from three perspectives. First, the members are highly committed to collaborating on solving the problems of their business practice and increasing the capabilities that will, in turn, make them high performers. Second, while the members are an obvious focus of the capability generation, the community as an entity has a purpose in providing the structure or space to which the members are drawn and creating a repository that facilitates access to the community's explicit knowledge. Third, the organisation is interested in supporting focused opportunities for employees to increase capabilities that will increase performance and achieve strategic goals.

These perspectives are not at cross-purposes. In fact, they are closely aligned, if not interwoven. In the end, the individual member, the community, and the organisation all want to realise maximum benefit from the excellence in performance that is developed through increased capabilities generated within the community. Communities that are aligned with a strategic purpose can make a significant contribution to creating an organisation's competitive advantage.

This level of involvement on the part of every employee and the skills development and knowledge transfer that takes place within the community, have an obvious impact on the leadership, management and the organisation itself.

3.10 THE IMPACT OF COMMUNITIES

*I can do what you can't do, and you can do what I can't do.
Together we can do great things.
Mother Teresa*

The knowledge economy and communities of practice as a strategy to manage knowledge resources, have a significant impact on both leadership and the organisation itself. Managers need to understand what these communities are and how they work. Secondly, the organisation needs to realise that communities are the hidden fountainhead of knowledge development and therefore the key to the challenge of the knowledge economy. The third step is to appreciate the paradox that communities require specific managerial efforts to develop and integrate them into the organisation so that their full power can be leveraged.

The following section briefly describes the impact of communities of practice on leadership and organisations.

Impact on Leadership

Organisations that launch communities of practice will succeed only if they have developed leadership skills and attitudes consistent with community formation and leadership.

Community leadership is different from traditional top-down management and team management. On the one hand, functional groups and teams both have measurable bottom-line objectives for which they can be held accountable. On the other hand, communities are responsible for learning and innovation related to competence areas. These activities by nature are informal, voluntary, and not amenable to typical incentives

or management influence. They rely more on the self-initiative of members and the alignment of members' personal goals with the organisation's mission. Moreover, community formation depends on collaborative domain mapping, problem exploration, agenda setting, and informal learning processes that are uncommon in many teams.

Senge (1990) formulates the role of top management as follows: "In a learning organisation, a leader's role differs dramatically from that of the charismatic decision maker. Leaders are designers, teachers, and stewards. These roles require new skills: the ability to build shared vision, to bring to the surface and challenge prevailing mental models, and to foster more systemic patterns of thinking. In short, leaders in learning organisations are responsible for building organisations where people are continually expanding their capabilities to shape their future - that is, leaders are responsible for learning". Organisations should therefore carefully assess their readiness for community organising initiatives before making commitments to apply them.

A major factor in this regard in South Africa is diversity within the workplace. Diversity is a reality in today's customer base and workforce. Ghigino (2003:38) points out that although much has been written about resource-based strategy and knowledge management, "ideas segregation" still occurs in organisations; especially organisations as diverse as those in South Africa. "Ideas segregation" is the opposite of accepting diversification as part of a company's repository of knowledge. The refusal to acknowledge or respond to diversity manifests itself in discriminatory comments, habits, actions, and behaviours towards others. Respect and receptiveness to new ideas, regardless of who they come from, are key to tapping into the repository of knowledge that an organisation carries with it. The challenge is both to attract a diverse workforce and to build the skills and organisational capabilities needed to learn - and benefit - from this diversity.

Every individual within an organisation holds his or her own set of values, which aligns with or challenges the values of others in the same company. As groups of people find

common values and create clusters of affinity, management needs to introduce an overarching vision and framework of rules and limitations which can mould and guide them, leading to greater cohesion and co-operation. If this does not happen, different clusters will become increasingly insular, resenting and distrusting other clusters, and thus become more unwilling to share ideas and values with them. Such factionalism within an organisation polarises the workforce, effectively curtailing the possibility of real interaction and shared commitment to a common goal.

Diversity is potentially one of the strongest determinants of growth or destruction within a company. By harnessing its wealth of ideas and tapping into its potential resources, organisations are investing in their own future. As ecologists have long known, overall balance within a system can only be sustained if every living being within it contributes to its functioning. Even the smallest and most easily overlooked element is crucial. The whole is never greater than the sum of its parts.

The challenge is therefore for managers to build organisational capabilities in order to retrieve and explore knowledge and talent resources hidden within their diverse workforce, thereby elevating the issue of racial barriers to one of multi-cultural strength and potential (Ghiggino, 2003:40-41).

Impact on the Organisation

The first transition in human society was from a hunter-gatherer economy to an agricultural economy based on natural resources: land, agriculture, mining, and fishing. Then emphasis shifted to the industrial economy and capital - money, factories, and machines (Stewart, 1997). "Now we are entering a third period of change - the shift from the command-and-control organization, the organization of departments and divisions, to the information-based organization, the organization of knowledge specialists" (Drucker, 1988).

The transition to the knowledge economy can be typified through the increasing replacement of (manual) labour by information and knowledge as the means of production (Quinn *et al.*, 1996; Malhotra, 1993). The focus shifts from what you own to what you know, from tangible to immaterial, from paper to digital (Stewart, 1997; Toffler, 1991).

Organisations are confronted with an ever-changing environment. The increasing pace of change in our society emphasises the necessity for organisations to adapt to and cope with environmental uncertainty. Choo (1995) argues that in order to cope effectively with their changing environment, organisations and their employees should act as a learning organism and be adaptive, innovative, and able to process information about that environment, and be able to turn this information into knowledge and share this within the organisation.

Senge (1992) states that “a wide array of forces of change in the contemporary organizational context is discernible -

- increasing uncertainty, economic and political turbulence, changing demographics,
- the increasing interdependence of global markets and global enterprises, strategic alliances,
- flattening, re-engineering, restructuring, reorganizing, downsizing and rightsizing of the organization, the shorter life-cycle of products, rapid technological developments, and
- instantaneous communications”.

Some of the most relevant social and technological developments in our society that call for organisational realignment are -

- *Increasing complexity of society*

The complexity of our society grows. With that, the issues an organisation faces also become more complex and are often interrelated. Solutions are complicated

and frequently only attainable through the synergetic effort of several, heterogeneous experts.

- *Global competition*

Global competition demands swift reactions to continuous and rapid developments in the environment. If one company does not pursue some particular innovation, another does, forcing related companies to do likewise or else be left economically behind. This time-pressure implores short organisational communication flows and an easy but thorough access to the necessary information and knowledge throughout one's own community and beyond.

- *7x24x365 services*

A 24-hour service oriented society is focused on the fulfilment of the needs of the individual who has only a very limited amount of time at his disposal.

- *Knowledge content of products and services*

"The knowledge content of products and services is intensifying. Because the knowledge content of work rises, jobs grow more individualised. Knowledge workers are less and less replaceable. The costs of replacing an employee grow, which is why organisations will invest more in their people or in the "control of expertise and competence of - job-hopping - employees" (Andriessen, 2001). The net result of such changes is that companies tend to use fewer but better paid workers than in the past" (Toffler, 1991).

- *Changing character of work*

The character of work itself is changing. Manual labour is being replaced by brain labour, carried out in dynamic virtual workgroups. Correspondingly, the workplace becomes digital and electronic and due to an increasing mobility, work is not tied to the physical location at the office anymore, but is evolving into work done by nomads at a virtual office, when and where it suits them.

- *Need for personal development*

People develop themselves - they climb the hierarchy of human needs. They want to satisfy more than their basic needs (food, shelter, and belonging) and seek in

their work possibilities for individual development, progress, growth, self-respect and esteem, autonomy, and self-actualisation (Krause, 1996; Senge, 1992).

- *Leverage effect of technology*

The leverage effect of technology and the use of microchips is an important accelerator of the pace of change. The “interlocked technology” implies that changes in technology go hand in hand with changes in society. Malhotra (1993) states: “The increasingly turbulent environment would feed the need for further (and greater) advancements in information technology which would further increase turbulence”. Information and communication technology are capable of processing vast quantities of information and can pull down the barriers of time and geographic location. Conlon (2001) identified three trends -

- A steady drop in computer power costs, “enabling companies to create faster, smaller, and cheaper digital devices that can be integrated into everyday items.
- The exponential increase in connectivity, largely facilitated by the growth of the Internet, which is poised to double its user base to two billion by 2004. It provides a fast, convenient channel for transmitting digital products, services, and information. And the more people, objects, or computers that are connected to it, each a source of information, the greater its efficiency and value.
- The digitalisation effect - digital technology can reproduce endlessly without any loss. This creates huge economies of scale.

This renewed level of collaboration and learning within organisations require different skills and organisational designs.

According to Dorothy Leonard-Barton (1995:104), organisations must be able to align their available talent with changing needs, almost on the fly. This requires a balanced workforce of permanent and contract workers with a mix of specialised or “hot” skills and

enough general skills (and business understanding) to apply the specialised knowledge effectively. These are commonly referred to as T-shaped skills, where the vertical line represents skill in an area of specialisation and the horizontal represents the ability to link with experts in other areas. In the case of IT/business alignment, the vertical line may represent technology skills and the horizontal line represent known connections or sources of expertise “on the business side”, however, one can conceive of situations in which it would be the reverse, where the horizontal skill is technological, and the vertical is the application of the technology to a specific business requirement.

Wegner *et al.* (2002:232) is of the view that “firms that understand how to translate the power of communities into successful knowledge organisations will be the architects of tomorrow - not only because they are more successful in the marketplace, but also because they will serve as a learning laboratory for exploring how to design the world as a learning system”. He however sounds a warning for organisations that “it is not particularly easy to build and sustain communities or to integrate them with the rest of the organisation” (Wenger & Snyder, 2001:3).

“In a knowledge-based organisation, it is the individual worker’s productivity that makes the system productive. In a traditional workforce the worker serves the system; in a knowledge workforce the system must serve the worker” (Drucker, 2002:125). Moreover - “effective knowledge is specialised. That means knowledge workers need access to an organisation – a collective that brings together an array of knowledge workers and applies their specialisms to a common end product” (Drucker, 2002:254).

Jack Welch (2001), when formulating GE’s vision for the “boundaryless” organisation stated, “the only way to be more competitive is to engage every mind in the organisation”.

Communities of practice provide a way in which to achieve this objective. The following chapter will discuss how organisations can support communities of practice.

3.11 SUMMARY

Knowledge sharing is about stimulating the exchange of experiences, ideas, and thoughts between people. Organisations can create and sustain an environment that encourages knowledge sharing, i.e. they can provide for conditions that enable such an environment.

Even though the management of knowledge resources has mainly been the domain of private sector organisations in the literature, it is asserted that the principles and best practices from organisations apply equally to the Government and its skills development initiatives described in Chapter 2.

The support that is required to sustain communities of practice as a skills development and knowledge transfer strategy is discussed in Chapter 4.

CHAPTER 4

THE SUPPORT OF COMMUNITIES

The most important contribution management needs to make in the 21st century is to increase the productivity of knowledge work and the knowledge worker.
Peter F. Drucker

In this chapter, the organisational support of communities will be discussed with reference to various the conditions, structures, models, and key success factors that facilitate and enable communities of practice in organisation. The chapter is concluded with a discussion of the effect that communities might have on the structure of the organisation itself.

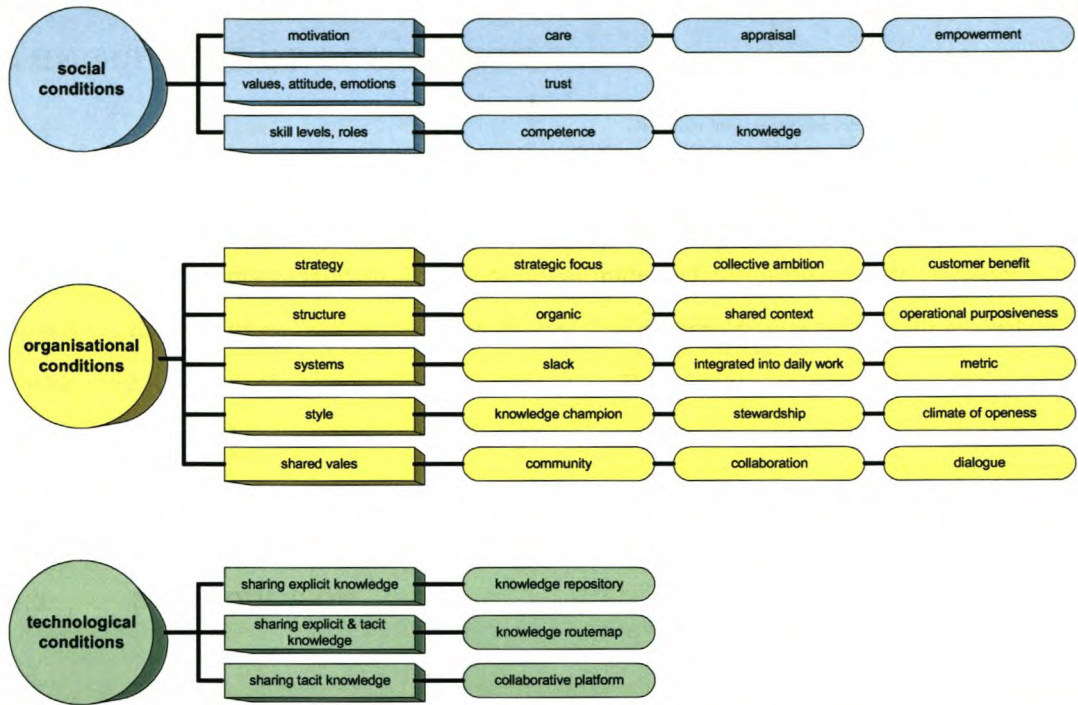
4.1 INTRODUCTION

Strategically, communities reflect their organisations, but they develop and operate quite differently. The challenge lies in maintaining a flexible, voluntary tone while establishing support structures to institutionalise the network.

Whether informal or formal, communities have the unique features of being forums for the exchange of tacit knowledge and for determining the quality and usefulness of explicit knowledge. Best-practice organisations continue to provide ongoing evidence that community efforts enhance the implementation of knowledge management and reduce the cycle time to institutionalising a knowledge-sharing culture.

The following discussion will show that there is consensus that successful communities rely on passion, leadership, influence, integration, and organisational relevance. This chapter focuses on incorporating those qualities into community development by discussing the social, organisational, and technological conditions under which support should be provided to communities. Figure 14 provides an overview of the discussion.

Figure 14: Enabling Conditions



Source: Van Den Brink, 2003:66

Van den Brink (2003:65) states that organisations will need to provide for conditions such that people can trust each other, work together, are motivated to share ideas, and can engage in dialogue in order to share thoughts and knowledge. He distinguishes between social, organisational, and technological conditions that need to be created and managed to sustain knowledge sharing. These conditions are discussed below.

4.2 SOCIAL CONDITIONS

According to Van den Brink (2003:65-86) the social conditions required for knowledge sharing can be structured according to the relationships between people and knowledge sharing and stated as follows -

- *Motivation* - the motivation or drive of a person to contribute to and participate in knowledge sharing is influenced by the characteristics of that individual, the situation, and their interaction. The theory of Maslow (1968) argues that the behaviour of people is determined by needs. Organisations should create conditions that influence these needs in order to influence motivation of individuals to stimulate certain types of behaviour like sharing of knowledge and discourage others like keeping valuable information to oneself.
- *Values, Attitude, Moods, and Emotions* - the prime condition that may help knowledge sharing is trust. Trust is used to lower uncertainty regarding the behaviour of other people or objects and supports sharing of ideas. Trust between people is best initiated through physical interaction with face-to-face contacts - "making a commitment eyeball to eyeball" has a more personal impact" (Skryme, 1998). In organisations where staff is geographically dispersed, electronic communication can connect team members, but without trust, geographical and organisational distances may turn into unmanageable psychological barriers (Jones & George, 1998).
- *Skill levels and Roles* - people in an organisation possess different skill levels - depending on experience, task complexity, and productivity. Senge (1999) distinguishes between trainee, amateur, professional, specialist, and expert. Knowledge sharing may not only be influenced by the skill levels of the employees, but also by the role a person has in the organisation.

4.3 ORGANISATIONAL CONDITIONS

The organisational conditions identified by Van den Brink for knowledge sharing are as follows:

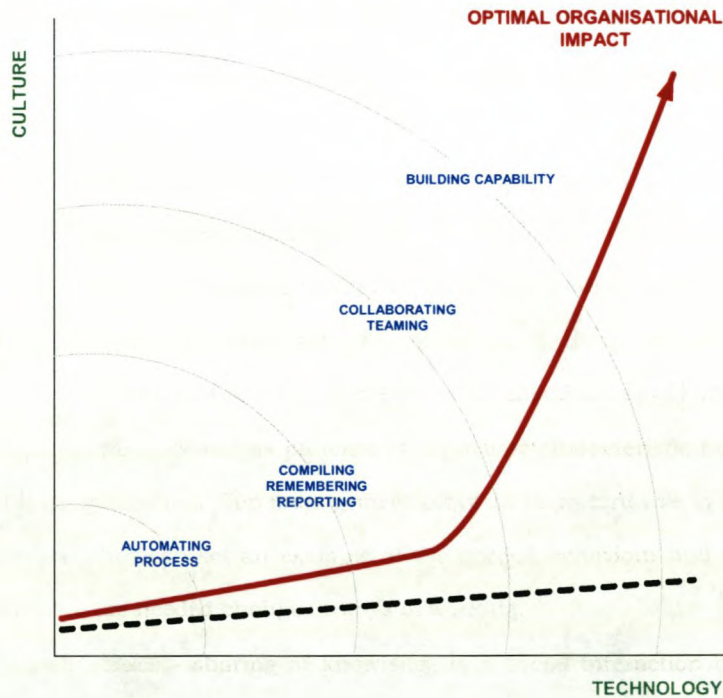
- *Strategy* - an organisation needs to create a knowledge vision to guide knowledge-sharing activities and to encourage commitment from employees (Nonaka & Takeuchi, 1995; Senge, 1999). The strategy for knowledge sharing should be built on the business strategy and should make clear in what way knowledge sharing can add value to the organisation, internally and externally.
- *Structure* - to facilitate knowledge sharing, the organisational structure should be focused on giving access to repositories of information and knowledge and on supporting the sharing of knowledge between people, teams, and organisational units.
- *Systems* - systems is viewed as the compilation of procedures and directives that facilitate the business processes and activities. To be relevant to knowledge sharing -
 - employees need to have time to be able to reflect, to increase competences, and to share knowledge,
 - knowledge systems should be embedded in daily work processes itself and not on top of that, and
 - there should be a way to measure the effectiveness of knowledge sharing.
- *Style* - style is viewed as patterns of behaviour characteristic for top management of the organisation. Top management plays an important role in knowledge sharing because they can set an example of the needed behaviour and can stimulate and facilitate the needed change in ways of working.
- *Shared Values* - sharing of knowledge is a social interaction that only can take place when people value building on each other's thoughts and are willing to share their own insights.

4.4 TECHNOLOGICAL CONDITIONS

Van den Brink (2003:85) states that technology will expand from transaction processing to the support of information and knowledge sharing and that information and communication technology will move from supporting pure computational activities towards supporting coordination activities and facilitation of interpersonal and group communication, thereby removing barriers of time and location on service and coordination (Keen, 1993).

Figure 15 below shows the broad development pattern of information and communication technology.

Figure 15: Stages of Technology Development



Source: Saint-Onge, 2003:100

A major objective of information and communication technology in facilitating knowledge sharing is to connect people with other people or with explicit knowledge. Therefore, an information and communication technology infrastructure is needed that supports the creation, structuring, accessing, and using of knowledge.

This infrastructure can consist of three, related dimensions. One dimension is to have information and explicit knowledge components online, indexed and mapped, with easy access and accurate retrieval for all users - in this situation the emphasis is put on explicit knowledge. Another dimension is to improve coordination, communication, and collaboration between people, teams, or groups to transfer the knowledge from those who possess this to people who need or can use this - here the emphasis is on tacit knowledge. The third dimension is to offer pointers to people with a special expertise or to documents that describe knowledge - in this dimension the emphasis is on both tacit and explicit knowledge.

Anderson and Smith (1998) segment functionalities of information and communication technology that could support knowledge sharing as follows:

- *Office applications* - this segment covers the basic functionality of office systems in an organisation like basic communication and productivity support for employees (examples are e-mail and messaging, calendaring and scheduling, and personal productivity applications).
- *Groupware* - groupware facilitates group work and collaboration. It provides technological support for cooperative work (examples are discussion databases, application sharing and electronic meeting systems).
- *Document systems* - this functionality offers support for document creation, storage, and life cycle management whereby paper-based documents are increasingly being replaced by digital documents.
- *Work process systems* - this information and communication technology assists and monitors the execution of the workflow and the (interaction of the) related work

processes. Examples are workflow management systems, process support systems, and e-forms.

- *Analytical systems* - analytical systems support analysis and interpretation of structured data for operational and strategic planning and decision-making (examples are decision support systems and data warehouses).
- *Knowledge systems* - this functionality facilitates information retrieval through for instance intranets or portals, online learning, and knowledge sharing.

Knowledge management initiatives typically use some form of information technology (IT) to connect people with people and people to information and knowledge. IT has consistently been recognised not as the primary driver of but an essential enabler to effective knowledge sharing.

What is the difference? According to the APQC (2002a), organisations that build technology tools with the assumption that it will improve knowledge sharing by itself have missed the boat. However, every best-practice organisation has unlocked the power of its people's knowledge by enabling employees with IT tools that make finding, sharing, and using information easier and more effective.

As technology has evolved, so has the perception of its role in knowledge management. In the mid-1990s, knowledge-sharing IT systems, based around CD-ROM and database technologies, required a significant investment of time and money. The late 1990s, led to a focus on Internet- and intranet-based strategies, but investment amounts were still considerable. As more organisations developed a presence on the Internet, created or bought portal tools, and moved to standardised desktop computing platforms, knowledge-sharing opportunities emerged.

Due to this existing and growing connectivity, many organisations then shifted their knowledge management focus from wires and bytes to the social aspects of knowledge

sharing and transfer. Organisations began to focus on the cultural drivers behind sharing knowledge, such as face-to-face meetings, virtual chat rooms, and building trust through personal communication. Existing technology tools were enhanced or modified to represent the social realities of the organisation - not to show the latest and greatest functionality. In the early part of the 21st century, technology advances are becoming more and more affordable for the majority of organisations. Additionally, many companies have begun capitalising on existing desktop tools they already possess, such as MS Outlook and Lotus Notes. Interestingly, best-practice organisations indicated that e-mail remains the most frequently used tool for knowledge sharing because of its relative ubiquity, speed, and personal nature. Because of this fact, and the danger that lies in having an organisation's knowledge tied up on the hard drives and e-mail folders of its employees, software companies are now developing e-mail mining programs that discover important knowledge that should be shared. As with any technology, however, people need to develop processes to capitalise on these tools and promote sensible use.

No technology platform can entirely supplant the need for frequent face-to-face interaction (either formal or informal). This face-to-face interaction is an excellent forum for communities to share tacit, undocumented knowledge. The best knowledge-sharing organisations combine useful technology with rich personal interactions to find, validate, share, and use knowledge to enhance their business results (APQC, 2002a).

Content management, which involves the identification, collection, and management of content within an organisation, is a crucial element of knowledge sharing and transfer initiatives. Organisations wanting to IT-enable their knowledge sharing processes, are faced with defining the life cycle of content, gathering an inventory of existing content, selecting a taxonomy, and creating a content validation system can address such issues through building an effective content management system. A content management system should provide standard approaches for content ownership, use, storage, and classification. Without it, important documents and knowledge can be lost or buried,

online data can become stale, and sharing will decline because people will not find what they need.

APQC (2002e:45) draws the following conclusions regarding the use of information technology for the purposes of supporting communities of practice -

- Although more affordable for most organisations, IT applications are still complex and require resources.
- People and processes, not IT, need to drive communities of practice. IT tools should enable easier, more effective sharing.
- Whereas collaborative tools and e-mail tremendously enrich opportunities to communicate, face-to-face interaction is still the most effective medium for community work. One potential setback may be attention and time overload from the variety of media. Community members need to be able to communicate in real time rather than download information or communicate in an asynchronous mode. Collaborative software enables such communication.
- IT tools should be designed around the community's needs, not vice versa.
- Content management must be addressed early in the community life cycle (APQC, 2002a).

Information technology is a necessity in sustaining a successful community of practice. IT has become an essential enabler of community members finding, disseminating, and applying knowledge. While most knowledge management (KM) champions agree that focusing on the social aspects of sharing knowledge - such as face-to-face meetings, virtual chat rooms, and building trust through personal communication - is key, building an integrated information management system allows a community to thrive under any circumstance (APQC, 2002e).

4.5 THE COMMUNITY- ORGANISATION RELATIONSHIP

Communities progressively require financial and other resources as they become more institutionalised within the organisation. With communities becoming such a key component in organisations’ knowledge management initiatives, a number of organisations have responded with financial resources. However there is more to supporting communities than just money. It requires leadership, sponsorship, and the active involvement of members. It also requires a supportive infrastructure with tools, technology, and resources.

As organisations invest in these communities, they assume more formal sponsorship arrangements and establish more explicit roles and responsibilities. Table 7 shows the principal differences between formal and informal communities according to the various constituent elements thereof.

Table 7: Formal vs. Informal Communities

| COP ELEMENTS | INFORMAL | FORMAL |
|----------------------------|--|--|
| Sponsorship | <ul style="list-style-type: none"> • Local • Problem-solving • Shared space and community • Internally establish norms and expectations | <ul style="list-style-type: none"> • Local to global • Provides systematic charter, framework, and standards • Corporate support team of KM practitioners • Replicated into the business at different levels |
| Membership | <ul style="list-style-type: none"> • Voluntary • People with a passion for the issues • Demand-driven • Subject matter experts recognised by peers | <ul style="list-style-type: none"> • Virtual teams with changing membership • Membership recruited based upon expertise and responsibility • Focus aligns with business strategy |
| Roles and Responsibilities | <ul style="list-style-type: none"> • Informal • Personal networks • Self-providing • Individual content experts • Self-generating | <ul style="list-style-type: none"> • Formal • Global support structures • Specified roles, such as leader, facilitator, moderator, content manager, validator • Core group of experts |

Source: APQC, 2002d:14

During its life time a community of practice may stand in different relationships to the organisation and consequently face different challenges at each stage of its life cycle as is shown in Table 8.

Table 8: Relationships of Communities to Organisations

| RELATIONSHIP | DEFINITION | TYPICAL CHALLENGES |
|-------------------|--|---|
| Unrecognised | Invisible to the organisation and sometimes even to potential members themselves | Difficult to see value and be aware of limitations, may not involve everyone who should participate |
| Bootlegged | Only visible informally to a circle of people "in the know" | Getting resources, having an impact, remaining hidden, gaining legitimacy |
| Legitimised | Officially sanctioned as a valuable entity | Broader visibility, rapid growth, new demands and expectations |
| Supported | Provided with direct resources from the organisation | Scrutiny: accountability for use of resources, effort, and time; short-term pressures |
| Institutionalised | Given official status and function in the organisation | Fixed definition, over management, living beyond its usefulness |

Source: Wenger *et al.* (2002:28)

Although some organisations have chosen to keep communities informal, APQC's (2002a:4) research indicates that best-practice organisations are guiding communities to become a formalised part of their approach toward innovation and technical excellence. As the potential power of these organic organisational forms has emerged, best-practice organisations have made an effort to formalise and strategically develop communities that support the mission and objectives of the business (APQC, 2002a:13). Additionally, some organisations formally identify and create communities to help successfully implement other knowledge management approaches such as a knowledge portal or process for transferring best practices.

Most communities serve more than one purpose, but a single initial intent usually dominates the design choices made to support a community. These differences have significant implications for the design and preparation of communities. For example, a technical community whose intent is to steward and grow the body of knowledge in their discipline will have different processes than a community with the intent to provide help to community members.

A community that does not understand its reason for existence and its place in achieving organisational goals, sets itself up for imminent obsolescence. Many community efforts have failed because of lack of strategic intents and support at the senior level.

4.6 KEY SUCCESS FACTORS FOR COMMUNITIES

The American Productivity and Quality Centre (APQC 2002b) lists the following factors as crucial for the success of communities -

- Sufficient resources, including money and budgets
- Cross-functional thought leadership
- Ongoing facilitation from a central support group
- IT support
- Design teams

These factors are discussed in more detail below.

Resources

Sufficient resources are required for communities to fulfil their intended purpose. Resources include start-up costs, training, facilitation, and participation time. Without funding, getting the community off the ground will be difficult. Unless the funding proposal for the community initiative happens to come at the right time in the budgeting

cycle to win funding, senior leadership or the community sponsor will have to reallocate time and resources to the effort.

Leadership

The existence of a cross-functional, high-level group of leaders can help to free up necessary resources. This could be a steering committee, a cross-unit knowledge management task force, or some existing body that provides overall guidance and support, including money and time.

The most critical success factor for a community is the leader's skills and background. A leader's responsibilities vary according to the type of community that he serves -

- Helping communities - leaders unite potential members, identify collaborative projects, and manage information and documents.
- Best-practice communities - leaders manage the transformation of ideas into verified, dispersed practices.
- Knowledge-stewarding communities - leaders remove organisational barriers to knowledge and keep the community focused on organisational objectives.
- Innovation communities - leaders find a balance between letting the community grow on its own and steering the community in the strategic direction of the company.

Facilitation

Formal communities will need an experienced group of knowledge management practitioners to support early efforts. The community membership is usually made up of practitioners and subject matter experts. The design, launch, and deployment of a community often require skill sets not present inside of the community. A central group engaged to support community meetings and activities require key skills such as facilitation, change management, project management, communication, and information technology capabilities. As a community matures and evolves, the central support group

will continue to act as internal consultants to the community. In addition, this central body should be devoted to spreading knowledge sharing and community principles and processes throughout the organisation and providing tactical support.

Information Technology Support

Information technology costs for basic communication and collaboration tools are typically an enterprise cost and contained in the IT budget. Specialised knowledge sharing and collaboration applications may be included in the central IT budget and allocated to the sponsor or units who benefit from the community.

Design Teams

A design team is formed to create the strategic and tactical plans for a successful community. This team will -

- create charters,
- select projects,
- create infrastructure
- design roll-out plans,
- foster support for KM, and
- monitor the results of the community.

Through interviews and recommendations from the business process owner, design team members are chosen based on the skills and competencies they bring to community development. The design team serves as an advisory board to the community and a linchpin to the cross-functional thought leadership group. In addition, it follows up throughout the life of the community, monitors its effectiveness, and makes strategic decisions and changes to the community when necessary.

The APQC (2002b:19) lists the following as “road blocks to community success” -

- Forming a community of practice without considering strategic objectives or identifying the problems the community may help solve.

- Failure to integrate the community into the business, the budget, the organisational structure, and the daily work of employees.
- Lack of senior-level support.
- Weak understanding of CoP's purpose.
- Limited financial resources.
- Absence of core group of experienced KM practitioners to provide guidance during formative period.

To mitigate or completely negate these “road blocks to success”, organisations need to consider the support structures and the level of support that the organisation should provide to create and sustain communities of practice.

4.7 SUPPORT MODELS

By creating support structures that can help and direct communities, organisations can enable communities to be a sustainable part of the organisational structure and to contribute positively to the bottom line of the organisation. This section focuses on the responsibilities of a support group and major models for support.

Structural Models

A formal or expansive hierarchy has little function in a community of practice. An autocratic approach stifles the creativity and sense of individuality that originates from networks of peers. Consequently, management needs to take on a role that is more supportive than supervisory in the development of communities of practice. Support groups provide direction, processes, and resources for each community type.

The support group's place in the organisational hierarchy determines the relationship and the degree to which the communities tie into the overall organisation structure, as well as their connection to the senior management team. The amount of involvement from senior

management correlates to the amount of influence a community may exercise. Support can be organised at a corporate or functional level (sometimes both).

At a corporate level, a support group can be an overarching knowledge management steering team, community, or board. The roles may include a sponsor, an owner, a leader, or a team of managers whose function is to approve funding, monitor progress, and ensure that the community goals are aligned with the strategic goals of the company. At a functional level, support is usually provided by a product group, a division/business unit, or an IT organisation. Support groups at a functional level support facilitation, coordinate meetings and networking sessions, set priorities, provide subject matter expertise, manage content, and/or act as liaisons between the communities and senior management.

Support structures for communities of practice are designed to align with the organisation's structure so that communities' reporting hierarchy reflects traditional functional units, with comparable levels of accountability according to their mission, goals, and available resources.

Strong support structures at the corporate level with minimal functional-level support usually indicate the maturity of a community. At this stage community participation is completely integrated into a member's workday. On the other hand, strong support at the functional level may imply a commitment from management to communities; if members have their hands full with day-to-day responsibilities, they may need extra help in validating information, coordinating meetings, and avoiding redundancy.

The American Productivity and Quality Centre (APQC, 2002a:42-45) proposes the following four models for the support of communities -

- Board Support Model,
- Community of Leaders Support Model,
- Central Staff Support Model, and
- Functional Level Support Model.

The Board Support Model

The Board Support model is applicable to organisations developing “helping” communities. In this model, a board guides the direction and the outcomes of the community. However, in “helping” communities that are peer driven and democratic, the support organisation provides fewer resources and is there only in case the community needs it.

APQC (2002b) describes a demonstrative example of the Board Support model at the World Bank where support groups exist at levels throughout the organisation. At the corporate level, a knowledge-sharing support group coordinates the communities across the bank. Their support extends to -

- providing strategic leadership,
- developing communities,
- working with departments such as IT, research, and evaluation,
- monitoring how processes are standardised,
- monitoring member activities,
- soliciting external ideas, and
- training the staff.

The Community of Leaders Support Model

The Community of Leaders Support model is more interactive at the intermediate levels of support provided for communities. The leader from each community in a specialty area is

part of a central “leader’s community” that acts as the liaison between the communities and management.

The Central Staff Support Model

The Central Staff Support model represents a knowledge management initiative that is not necessarily tied into an overarching corporate knowledge management program. This does not imply that the knowledge management initiative is not aligned with the strategic goals of the organisation, just that there is no formal corporate knowledge management program. In this model, communities are informal; the reporting structure and the accountability associated with implementing best practices from a community are not. The support group provides technology and training and monitors the activity of the community.

The key roles in this support model are those of community administrator and community leader. The executive sponsor performs the traditional responsibilities of gaining budget approval and support. The support group is part of the process leadership function, which is responsible for leveraging technology to improve work processes. The end goal is to gather best-practice information on successful processes and to disseminate them for reuse in other areas.

The Functional Level Support Model

The Functional Level Support model involves two support groups. One is an internal board that oversees a strategic knowledge management or community objective defined by senior management. Second is the community support group that builds and sustains communities in a functional area. The model also involves either a formal knowledge management group or a community of knowledge management champions at the corporate level. The group ensures that knowledge management is consistently deployed across the organisation. By sharing knowledge of community activities, redundancy is avoided and the reuse of information increases.

The four models for supporting communities reflect different types of communities, with different intents. The appropriate model also is determined by the organisational structure and the communities' degree of maturity.

Funding Models

Information technology budgets for knowledge management will usually not cover the costs of building communities of practice. IT budgets typically include funds for communities' basic communication, collaboration tools, and applications needs, but APQC's research shows that in order to be successful, an organisation must provide for start-up costs, training, facilitation, and leader and member time to ensure a community can reach its full potential (APQC, 2002a:47-50)

Funding and budget allocation for communities varies over time, moving from indirect, informal funding in the early stages, through increased centralised budgeting, to a realignment of resources whereby business units take up more of the budget load once the community is established and operational.

Measuring Communities

The prevalence of cost centres and operations managers focused solely on billable time indicates the importance organisations place on accounting for and measuring how an employee's time is spent. As communities become institutionalised and exercise influence, they are integrated into day-to-day responsibilities and consequently require more of people's time and energy. That increased time must be justified; consequently, the existence of the community must be justified through measurement.

Yet measurement is not entirely a bottom-line pretence to justify funding. Rather, measurement has the power to focus attention on desired behaviours and results. Well-designed measurement systems beget successful knowledge management initiatives.

How communities are measured should reflect strategic intent, tactical design, and degree of maturity. There is no single, perfect measure of community success because the definition of success varies from organisation to organisation, and often community to community. Assessment is beneficial to both developing and mature communities. Communities in uncharted territory need objective indicators of progress and success in operations. To ensure ongoing support from the organisation, developing communities can act strategically by using continuous assessments as an early-warning system for correction. Mature communities can use measures to underscore the goals of knowledge management, drive and reinforce knowledge-sharing behaviour, assess progress, and possibly reassess direction.

APQC has identified two frameworks to measure the impact of a community of practice. The first framework assesses the health of the organisation. With a focus on the tactical operations of a community, information regarding effectiveness or value is often more strategic. The second framework assesses the effectiveness of the community. To accurately assess the status of communities, information from both frameworks is essential.

Community Health

This framework for continuous assessment provides community leaders with information regarding community activity. Developing communities need to assess their structure and define community goals in the early planning stages. A wide variety of output measures will highlight links to organisation strategy and gauge the capacity for knowledge to flow. As the community matures, assessment will continue to involve content management, system use, participation levels, and the number of problems solved by the community.

However, this framework does not describe the value that the community provides to the organisation and measures need to be established to judge community effectiveness.

Community Effectiveness

Most organisations do not assess the value of communities from the outset. Instead, communities are afforded an opportunity to develop and grow whereafter the organisation begins to measure its contributions. The second measurement framework is community effectiveness, which is the value that a community provides to an organisation, such as reduced cycle time, increased customer savings, repeat business, and reduced cost of doing business.

An organisation may measure the progress of the community toward its goals. On the other hand, an organisation may measure the value that communities provide by collecting stories and anecdotes from community organisers, members, and leaders. Through storytelling activities, community members and leaders are given the opportunity to trace the value of community participation to a higher level of efficiency in their everyday work. Consequently, this framework more easily lends itself to qualitative measures. In the early stages of a community, capturing and sharing success stories -big or small- is key.

Money is one hurdle; the other is to find or create a group of experienced knowledge management practitioners and free up enough of their time to support a community of practice initiative. The people supporting communities need key skills relating to facilitation, change management, project management, communication, and information technology (for best-practice repositories and Web sites). Table 9 lists some of the categories of resources needed to design and launch a community.

Table 9: Resources required for Communities

| People Costs | Process Costs | Technology Costs |
|--------------------------------------|--|---------------------------------|
| Community Leader(s) | Taxonomy Development | Databases |
| Meeting/Planning Facilitators | Standards Development | Collaboration Tools |
| Content Managers | Rewards and Recognition | Expert Locator/ Yellow Pages |
| Best Practice/ Content Validation | Metrics and Reporting Communication Training Content Validation | System Integration |

Source: APQC (2002e:50)

Some central funding and support help business units to develop communities and can reinforce cross-organisational knowledge-sharing behaviour. During start-up, participants' time is the main cost in a community. As the community matures, business units tend to take on more and more of the cost. Cross-functional support from corporate groups such as IT and HR is critical to developing and sustaining the community system.

Conclusion

Whatever the nature and level of the organisational support provided, people remain the master economic resource. They are the master resource because they use their required skills and abilities as the agents that combine tangible elements and intangible ideas to make machinery and usable goods and services.

Organising people - either formally or informally - into communities of practice has the potential to transform the structure of the organisation into a "community of communities".

4.8 A COMMUNITY OF COMMUNITIES?

The idea that an organisation is a constellation of "communities of practice" is a genuine breakthrough. It is an idea that has profound implications for what it takes to run a successful organisation in our chaotic times.
Tom Peters

According to the APQC (2002d:2-3) communities of practice are being increasingly recognised as a new organisational form that complements existing structures. "They do not necessarily replace other organisational arrangements; but promise to enhance the capabilities of an organisation by addressing the unmet needs of the individuals within it". This statement provides an indication of how influential communities have become. They are the shadow networks within and beyond organisations. They may or may not be acknowledged on organisational charts and in explicit hierarchies, but they are nevertheless potentially powerful.

The APQC (2002d:4) reports that some organisations are beginning to realise that they can make the most of this phenomenon by cultivating existing networks. Membership in a community is typically voluntary and develops naturally. Once an organisation identifies naturally occurring, informal networks, it can apply the networks' organic characteristics to form communities within the traditional mechanisms of an organisational structure. Consequently, the networks take on formal checks and balances that reflect the organisation (APQC, 2002e:29).

The challenge is to nurture the development of these communities within the more formal and rigid structures of normal corporate organisation. The formal structures provide the environment for the communities of practice and the resources required for its support. Yet these structures cannot make communities occur or do more than nurture the conditions that favour their robust development. In its turn, a community, which, as part of an organisation, requires some resources for its support, can be expected to make commitments for development and delivery of value. These commitments should be not so much promises for which they are held to account but more mutual expressions of commitment with reciprocal supporting structures. These structures will be for the

development of the knowledge of the community and the connection between that development and the intentions, interests and commitments of the business that supports it.

It may well be that the organisation of the future will be a “community of communities of practice.” In the interim, fostering the growth and development of such communities will provide the maximum benefits in learning, knowledge development, and flexibility of response to the marketplace.

An organisation may be viewed as a network of communities with interlocking membership and fuzzy boundaries or edges. A community is clearly identifiable at its core or centre but, as members become more peripheral, it becomes less clear if they are included or not. The communities of an organisation are communities of learning, of interest, of proximity, etc. These communities tend to be forces of preservation and persistence of what is. Corporate change occurs when a community of intent emerges which is focused on and forms around an intention to change. No single individual and no number of individuals intent on a change have sufficient energy and information to move a corporation. While a change effort may begin from a single individual, more usually it will emerge from a dialogue (of speaking and action) between a number who see greater possibility and begin to focus attention on that.

It is the interlocking, overlapping, fuzzy-edged nature of communities that allows continual expansion throughout an organisation. Individuals need not give up membership in other communities - except communities of complaint - to participate and become members of a community of intent. In fact, to be a successful new community, members need to retain active, visible membership in their old communities.

When the community of intent predominates in the other existing communities, then corporate transformation is merely a matter of time - and probably not much time compared to the expectations of the society in which it is occurring.

4.9 SUMMARY

In this chapter, the organisational support and potential organisational impact of communities were discussed with reference to enabling conditions and various models of support. It is concluded that communities of practice require a different mindset on the part of organisations extending work beyond the narrow definitions of productive work in the traditional sense. Communities of practice have the potential to change organisational hierarchies and structures - evolving the industrial type organisation into an organisation suited for the challenges of the knowledge economy - one that fosters learning and knowledge sharing and transfer. It is asserted that these considerations, though drawn from literature pertaining to private sector organisations, apply equally to State sponsored knowledge resource management initiatives.

The role of communities in fostering learning and then specifically the development of skills in the South African context will be discussed in chapter 5.

CHAPTER 5

SKILLS AND KNOWLEDGE THROUGH COMMUNITIES

To practice a discipline is to be a lifelong learner. You never "arrive"; you spend your life mastering disciplines. You can never say, "We are a learning organisation" any more than you can say, "I am an enlightened person". The more you learn the more acutely you become aware of your ignorance.
Peter M Senge

In this chapter the value of communities of practice and its potential impact as a knowledge management strategy for the development of skills and knowledge transfer in the context of the current National Skills Development Strategy, will be discussed.

5.1 INTRODUCTION

There are two factors that have moved learning from being a subject for academic study to an agenda item in organisations and Cabinet meetings - the pace of change and the competitive threats posed by globalisation.

There appears to be almost universal agreement that the pace of change is accelerating as never before and that organisations have to chart their way through an increasingly complex environment. Organisations have to cope with social and economic changes, rapid developments in technology, situations where customers and suppliers can be both competitors and allies, and a change in emphasis from quantity to quality and from products to services. To cope with this growing complexity, organisations are recognising the need to acquire and utilise increasing amounts of knowledge if they are to make the changes necessary to remain competitive (Burnes *et al.*, 2003:452).

The second and related factor, which has generated such interest in organisational learning, is the increase in competitive pressures brought about by globalisation. In the 1980's and 1990's and to a significant extent even today, this was epitomised by penetration of Western markets by Japanese corporations. In attempting to explain and/or combat their success, many commentators argued that one of the main strengths

of Japanese companies was the speed with which they could gather information on markets and competitors, and disseminate and act upon this information internally. This ability to learn, adapt, and develop also extended to their commitment for continuous improvement, in processes as well as products, both internally and jointly with customers and suppliers. It was this commitment to translate a commitment to individual learning into organisational learning which gave the Japanese such a fearsome reputation for producing the right product, in the right time and the right price (Burnes *et al.*, 2003:453).

The careful cultivation of the capacity to learn in the broadest sense, i.e. the capacity both to acquire knowledge through sharing and transfer and to develop practical abilities (skills), seems to offer a realistic way of tackling the pressing problems of our time.

5.2 LEARNING AND KNOWLEDGE TRANSFER

The skills development and knowledge transfer imperatives for South Africa were described in Chapter 2. The Government's primary response to the skills imperative is the National Skills Development Strategy, which focuses on the establishment of learnerships and the encouragement of the "creation of active learning environments" in the workplace.

As was shown, the tactic of learnerships has to date not met with expectations in terms of uptake and a possible reason for this is the mandatory linkage of learnerships and contracts of employment for at least the duration of the learnership. This against a background of static economic growth and the concurrent "tightening of the belts" primarily through the freezing of posts and deliberate head-count reductions in the private and public sectors. Employers are furthermore not keen to conclude learnership agreements only to be faced with an inflexible industrial relations regime as set out in the Labour Relations and Basic Conditions of Employment legislation.

Affirmative action and employment equity programmes furthermore render skilled “designated group” staff highly sought-after and employers are experiencing high levels of staff turnover in respect of such staff usually because of short-term financial gains on the individual’s part and the need for corporates to meet Employment Equity targets.

It is submitted that a strategy that will encourage skills development and create a culture of learning with individuals *sans* the abovementioned constraining factors is required to provide impetus to the development of skills in South Africa.

No guidance is provided in the National Skills Development Strategy as to how employers should go about creating “active learning environments” in the workplace. Even though it is not expressly stated in any of the literature consulted, it can be assumed that the drafters of the National Skills Development Strategy had the concepts of “organisational learning” and the “learning organisation” in mind when they coined the term “active learning environment” in the strategy. But in creating these “active learning environments” South African organisations are faced by constraints such as no/little slack time within the furious pace of everyday business, diversity of cultures and languages within the workplace, a skewed distribution of skills and knowledge between staff, the much publicised “brain drain” that causes a flight of skills out of organisations and the country as a whole, and indefinite affirmative action/employment equity programmes that cause a to-be-expected reluctance on the part of individuals who feel threatened by such programmes to share their knowledge and transfer their skills to others in the mistaken belief that “knowledge is power”.

Again a strategy is required that will facilitate and encourage knowledge sharing and transfer in a manner that makes business sense for organisations through increased innovation and improved productivity as well as for the individual in terms of personal growth and job security. The Government needs to engage organisations holistically on a level that will increase organisations’ pre-disposition towards skills development and

knowledge transfer because it makes economic sense to organisations. The unstable nature of the current strategic environment renders the current National Skills Development Strategy and its primary tactics of learnerships and the creation of active learning environments, too inflexible and ill defined to cope with discontinuous change.

A dynamic but intuitively acceptable strategy is therefore required to exploit the competitive opportunity that an increase in the general level of skills and knowledge within the broader South African population would bring and which would result in closing the chasm between the dual economies (and societies) in our country.

5.3 A COMMUNITY OF PRACTICE STRATEGY

*As community of practice generate knowledge, they renew themselves.
They give you both the golden eggs and the goose that lays them*
Wenger & Snyder

Saint-Onge and Wallace (2003) are of the view that "... (as) one of the first tangible illustrations of knowledge management in action, communities of practice have emerged as an example of what an organisation actually does in a knowledge strategy". It is therefore postulated that in this era of knowledge intensification, communities can be the primary enablers of knowledge sharing within organisations, to the point that they can become a key source of competitive advantage.

Communities of practice are not the latest management trend or some alternative model for organisational development. Instead, they are a way of describing how people in organisations innovate and how knowledge conversion/sharing takes place. The challenge for organisations trying to prosper in the Information Age, is to take full advantage of its most valuable resource - the knowledge that its' people possesses. By facilitating the development and operation of communities of practice, organisations can ensure that this resource is used optimally.

Pór (1997) states that communities of practice and their networks can help organisations to -

- organise work in ways that makes people grow and be happy,
- accelerate business cycles, and
- learn faster than the competition.

Communities of practice deliver their value proposition by -

- developing and spreading better practices faster,
- connecting “islands of knowledge” into self-organising, knowledge sharing networks of professional communities,
- feeding and being fed by web-based repositories of both proven solutions and new approaches,
- fostering cross-functional and cross-divisional collaboration, and
- increasing community members’ ability to initiate and contribute to projects across organisational boundaries.

According to Wenger *et al.* (2002:14), organisations that have taken steps to cultivate communities have found that these communities are unique among organisational structures in their ability to deal with a broad range of knowledge-related issues. The authors support Pór’s view by stating that communities can -

- connect local pockets of expertise and isolated professionals,
- diagnose and address recurring problems whose root causes cross organisational, business unit or team boundaries,
- analyse the knowledge-related sources of uneven performance across areas performing similar tasks and work to bring every-one up to the highest standard, and
- link and co-ordinate unconnected activities and initiatives within a similar knowledge domain.

Furthermore communities of practice add value to organisations by -

- helping to drive strategy,
- starting new lines of business,
- solving problems quickly,
- transferring best practices,
- developing professional skills, and
- helping organisations recruit and retain talent (Wenger & Snyder, 2001:17).

Saint-Onge and Wallace (2003:49) cites Allee (2000) in terms of the benefits that a community delivers both for itself and for its members in that it -

- helps to build common language, methods, and models around specific competencies,
- embeds knowledge and expertise in a larger population,
- aids in the retention of knowledge when employees leave the organisation,
- increases access to expertise across the organisation,
- provides a means to share power and influence in the formal parts of the organisation,
- helps people do their jobs,
- provides a stable sense of community with other internal colleagues and with the organisation,
- fosters a learning-focused sense of identity,
- helps develop individual skills and competencies,
- helps a knowledge worker stay current, and
- provides challenges and opportunities to contribute.

A synthesis of these benefits is shown in Table 10 and discussed further below -

Table 10: Short- & Long-term Value of Communities

| | Short-Term Value | Long-Term Value |
|--------------------------------------|--|--|
| | IMPROVE BUSINESS OUTCOMES | DEVELOP CAPABILITIES |
| Benefits to Organisation | <ul style="list-style-type: none"> • Arena for problem solving • Quick answers to questions • Reduced time and costs • Improved quality of decisions • More perspectives on problems • Coordination, standardisation, and synergies across units • Resources for implementing strategies • Strengthened quality assurance • Ability to take risks with the backing of the community | <ul style="list-style-type: none"> • Ability to execute a strategic plan • Authority with customers • Increased retention of talent • Capacity for knowledge-development projects • Forum for benchmarking against the rest of industry • Knowledge-based alliances • Emergence of unplanned capabilities • Capacity to develop new strategic options • Ability to foresee technological developments • Ability to take advantage of emerging market opportunities |
| | IMPROVE EXPERIENCE OF WORK | FOSTER DEVELOPMENT |
| Benefits to Community Members | <ul style="list-style-type: none"> • Help with challenges • Access to expertise • Better able to contribute to team • Confidence in one's approach to problems • Fun being with colleagues • More meaningful participation • Sense of belonging | <ul style="list-style-type: none"> • Forum for expanding skills and expertise • Network for keeping abreast of a field • Enhanced professional reputation • Increased marketability and employability • Strong sense of professional identity |

Source: Wenger *et al.*, 2002:16

Short-Term and Long-Term Value

Participating in a community of practice has both short-term and long-term value, as shown in Table 10. In the near term, members can get help with immediate problems. They spend less time hunting for information or solutions. By including the perspectives

of their peers, they devise better solutions and make better decisions. They can be more daring in taking risks or trying new things knowing they have a community to back them up. They can coordinate efforts and find synergies across organisational boundaries. As they address current problems, meanwhile, communities are also building sustained value by developing an ongoing practice that will serve the organisation's long-term strategy. Members develop professionally; they keep abreast of new developments in their field and benchmark their expertise against that of colleagues in other organisations.

Tangible and Intangible Value

The value communities create includes tangible results such as a standards manual, improved skills, or reduced costs through faster access to information. It also includes less tangible outcomes such as a sense of trust or an increased ability to innovate. Tying community activities to tangible business outcomes is important lest business leaders make the mistake of dismissing communities as "soft" structures. Articulating the value of communities in terms of their tangible effects on performance provides them with the legitimacy they need to steward knowledge effectively. Some of their greatest value lies in intangible outcomes, such as the relationships they build among people, the sense of belonging they create, the spirit of inquiry they generate, and the professional confidence and identity they confer to their members.

Strategy-Implementing and Strategy-Making Value

Communities of practice provide value through their ability to develop new strategies as well as implementing existing ones. On the one hand, communities of practice are a way to realise a business strategy. Implementing strategy most often depends on the participation of highly competent frontline practitioners who understand the products, are aware of market trends, and know what it will take to beat the competition. On the other hand, communities of practice can contribute to the formulation of new strategies. When highly developed, influential communities of practice keep abreast of market opportunities

as well as their own practice development; they can inform or enact new strategic initiatives.

Connecting Professional Development and Corporate Strategy

Most importantly, communities of practice create value by connecting the personal development and professional identities of practitioners to the strategy of the organisation. Successful ones deliver value to their members as well as to the organisation. If it is not clear how members benefit directly from participation, the community will not thrive, because the members will not invest themselves in it. Similarly, if the community's value to the organisation as a whole is not understood, it is difficult to justify investing resources in the community and to legitimise its voice. The ability to combine the needs of organisations and community members is crucial in the knowledge economy, where companies succeed by fully engaging the creativity of their employees (Wenger *et al.*, 2002:18).

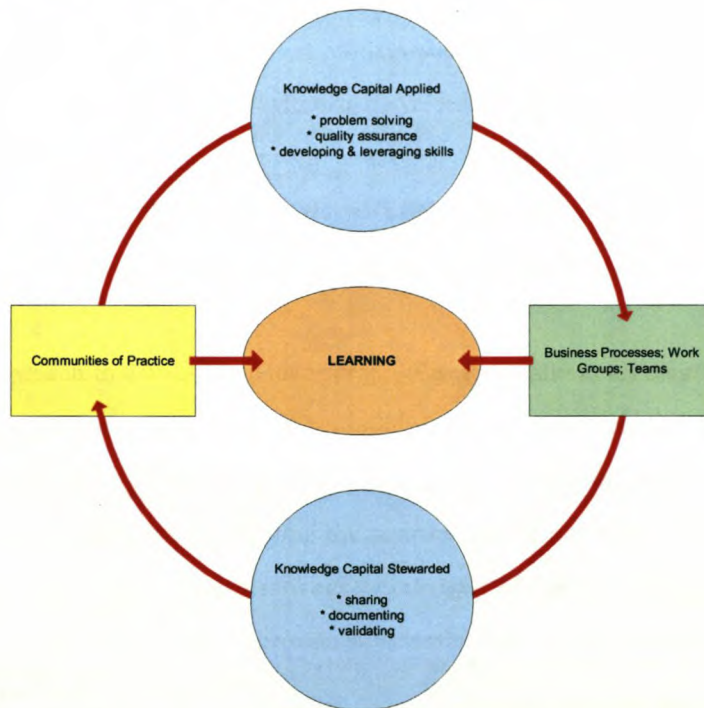
A strategic approach to developing communities of practice allows an organisation to take full advantage of its knowledge flow. Communities, if correctly selected and organised, are uniquely positioned to exchange tacit knowledge and determine the usefulness and validity of explicit knowledge by allowing the bearers and creators of knowledge to share, cooperatively create, and use organisational knowledge. Additionally, the content that the communities create, can be used to provide substantial value to the organisation.

Wenger and Snyder (2000:143) describe communities as "the new frontier" - they may seem unfamiliar now, but in five to ten years, they may be as common to discussions about organisations as "business units" and "teams" are today.

For an organisation to learn from its own experience and to fully leverage its knowledge and develop the skills of its staff, the communities that steward knowledge and the business processes where knowledge is applied must be tightly interwoven - creating what

Wenger *et al.* (2002:18-21) call a “double-knit” organisation. Practitioners themselves, in their dual roles as both community practitioners and operational team members, help link the capabilities of communities of practice to the knowledge requirements of teams and business units. In this regard, a community of practice is very different from a “centre of excellence” where specialists develop knowledge without being involved in line operations. This multi-membership creates a learning loop, as illustrated in Figure 16.

Figure 16: The Multi- Membership Learning Cycle



Source: Wenger *et al.*, 2002:19

As members of teams and workgroups, people are accountable for performing tasks. When they face familiar problems, they apply and refine their skills; when they encounter new problems, they invent new solutions. However, the same people are also community members, and as such, they are accountable for developing a practice. They bring their team experience to their communities and receive help with their problems. They can

discuss their new solutions, generalise or document them, and integrate them into the community's practice. Then they return to their projects equipped with expanded capabilities, which again face the test of application to real problems. Through this multi-membership, the learning cycle continues indefinitely. That is why it is so important to have communities of actual active practitioners manage their own knowledge. This double-knit structure of teams and communities is reminiscent of "matrix" organisations, in which people have multiple reporting relationships to serve different purposes. The matrix structure only focuses on the distribution of authority and the coordination of resources by multiplying reporting relationships. It does not create different structures for different purposes. Whereas a matrix has reporting relationships on both arms, communities of practice provide a different kind of structure for focusing on knowledge. They are based on collegial relationships, not reporting relationships. This combination of formal and informal structures is fundamentally different from a matrix. It provides new degrees of freedom for designing organisations. Managers can design formal structures to focus on accountability for customer and business results, while relying more heavily on informal structures such as communities of practice to address issues related to knowledge, competence, and innovation.

Relying explicitly on communities of practice fundamentally transforms the landscape of the organisation. Domains of knowledge become focal points for connecting people in different units who are working on potentially related projects. The power associated with these knowledge domains becomes a more visible part of the organisation. In fact, in a fast-moving knowledge economy, these domains are often more stable and enduring than specific projects, jobs, products, or even businesses. Business units are constantly being reorganised. Projects come and go. Teams are assembled and dispersed. Given such discontinuity in the formal organisation, communities of practice offer an underlying layer of stability. They provide a welcome "home and identity" where practitioners can connect across organisational and geographic boundaries and focus on professional development rather than merely the application of expertise to meet a specific goal.

Communities of practice may be the most significant, tangible example of knowledge management at work in an organisation. In essence, a community of practice is a vessel for conversations to take place, conversations that lead to increasing capabilities. Professionals often learn best from one another. Sharing experience and expertise within a community of practice is very pragmatic, tied to the business, and, for the most part, based on actual situations from the members' environment. More than likely, there is little, if any, discussion of theory. The knowledge creation and exchange are focused on a particular dilemma, and the result is improved capabilities directly related to performance.

The focus on communities of practice thus points the way to a new wave of organisations where the formal structures - those organised around providing products and services - are constantly changing to meet shifting market needs, while the informal, voluntary structures - those organized around knowledge - are more stable. Indeed, one could argue that with the stability provided by communities of practice, organisations can be even more flexible in response to shifting market demands. Consequently, leading knowledge organisations are increasingly likely to view communities of practice not merely as useful auxiliary structures, but as foundational structures on which to build the organisation.

It is asserted that this reasoning applies equally to South Africa and its skills development and knowledge sharing imperatives. Communities of practice could serve as a complimentary/parallel strategy or mechanism to "learnerships" to involve existing and potential employees in discussions about work by people performing the work. From the available literature, it would appear that communities of practice tend to flourish where there is a high technical content in the subject and proficiency on the part of community members. By involving other people in such communities, potential employees are identified and the skills levels and knowledge of existing employees are improved.

Participation in communities might not necessarily lead to recognition under the National Qualifications Framework but it is asserted that the functioning and value of communities

are sufficiently measurable and quantifiable to qualify for funding in terms of grants under the Skills Development Act. By recognising communities of practice as a core element of the National Skills Development Strategy and by supporting the creation and sustaining thereof, the government will encourage organisations to adopt communities of practice as the centrepiece of their knowledge management efforts.

The dialogue that is inherent in the conduct of communities of practice will furthermore strengthen the social fabric of the organisation and assist in the management of diversity issues in South African organisations. South Africa could become “a nation of life-long learners” and in so doing, leverage its human capital to actively participate and succeed in the Knowledge Economy.

5.4 CONCLUSION

Organisations, individuals, and countries as a whole need to become intentional and systematic about “managing” knowledge. Knowledge has become the key to success and is simply too valuable a resource to be left to chance. Organisations, individuals, and countries need to understand precisely what knowledge will give them competitive advantage and what skills are required to effectively and efficiently fulfil their activities.

The explosion in science and technology creates a difficult paradox. At the same time that the increasing complexity of knowledge requires greater specialisation and collaboration, the half-life of knowledge is getting shorter. Without communities focused on critical areas, it is difficult to keep up with the rapid pace of change (Wenger *et al.*, 2002:6). Cultivating communities of practice in strategic areas is a practical way to manage knowledge as an asset - just as systematically as other critical assets are managed.

In the globalised economy, organisations and countries are not just competing for market share and their own economic prosperity; they are also competing for talent - for people

with the expertise and capabilities to generate and implement innovative ideas. People who will enable South Africa to compete in the Knowledge Economy.

Communities of practice as a core element of the National Skills Development Strategy could provide a proven and evolutionary strategy and process to leverage and continuously enhance the available knowledge resources of South Africa by sharing and transferring knowledge to develop a broader base of skills available to the South African economy. Through the large-scale adoption of communities of practice at all levels of activity within our society, South Africa could indeed become a “learning nation”.

5.5 SUMMARY

In this chapter the value and potential of communities of practice as a core element of the National Skills Development Strategy was discussed and it was concluded that communities of practice could serve as a knowledge transfer and skills development strategy to enable South Africa to leverage its human capital for participation in the Knowledge Economy.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

This study provided a detailed description of the nature, structure, support, and value of communities of practice with the objective to explore the suitability thereof as a strategy for the development of skills and the transfer and sharing of knowledge against the background of the South African skills deficit.

6.2 SUMMARY OF LITERATURE STUDY

The following findings can be made from the literature study -

CHAPTER 2

The South African knowledge economy is in its fledgling stages and ill prepared to actively participate in the global knowledge economy. The South African economy is characterised by a duality that constrains economic growth and places emphasis on the fulfilment of the broader social agenda of skills development to the detriment of knowledge work.

Those organisations who are equipped to participate in the knowledge economy face an urgent requirement to share, transfer and retain knowledge not least because of high staff turnover and the loss of expertise. The skills development and knowledge transfer imperatives are discussed by way of reference to applicable government strategies and knowledge management theories and it is concluded that “communities of practice” could serve as a knowledge management strategy to address both of the aforementioned imperatives.

CHAPTERS 3 & 4

In these chapters, a detailed description of the nature, structure, support, and value of communities of practice was provided with the objective to -

- provide the reader with a detailed understanding of all aspects of communities of practice (excluding its implementation), and
- sensitise the reader of the potential of communities to become the centrepiece of knowledge and skills development initiatives in South Africa.

CHAPTER 5

A link between communities of practice and learning in South Africa is drawn and it is argued that communities of practice should be included as a core element within the National Skills Development Strategy. It is viewed as an appropriate strategy to close the gap between the dual economies that exist within South Africa and as an aid to manage the diversity inherent in the South African workplace.

6.3 RECOMMENDATIONS

The profile of communities of practice as a skills development and knowledge management strategy should be increased by way of articles in the general business press so that communities of practice become a part of the general management lexicon of South African organisations.

Secondly, the potential for the inclusion of communities of practice into the National Skills Development Strategy should be motivated with the Department of Labour after research has been conducted into the skills development and knowledge management needs of South African organisations and the prevalence of communities of practice in South Africa.

6.4 AREAS FOR FUTURE RESEARCH

The use of communities of practice as a knowledge management strategy in South African organisations needs to be researched and quantified in terms of both prevalence and value.

6.5 CONCLUSION

Communities of practice is a proven and mature knowledge management strategy and could be implemented with great success in South African organisations as part of the National Skills Development Strategy to facilitate the development of skills and the transfer and sharing of knowledge to enable South Africa to become a "learning nation".

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