
Chapter 3

THE BUSINESS ENVIRONMENT

3 INTRODUCTION

This chapter is directed at understanding the new business environment and the pressures and challenges that companies face. It starts by briefly looking at some characteristics of the new business environment, the drivers of the new economy and changes that characterise the environment. This is followed by an analysis of the changing business environment, which Schümann-Sasol (SA) (Pty) Ltd faced after the merger and prior to its decision to engage in a transformation.

The Chapter also reviews the major factors companies could consider for enhancing their competitive advantage. The Chapter ends with a proposal for a new paradigm to improve organisations' competitive advantage.

3.1 The new business landscape: a new frontier

Changes since the early 1990's have been unprecedented. The world entered the nineties with the use of the internet largely unknown. The nineties ended with almost a billion people globally communicating and conducting business on the Internet. Now, after four years into the millennium it has become the basis for electronic commerce among businesses, the digital delivery of goods and services and retail sales of tangible goods (Hitt 2000; Hughes, 1998).

The environment of the 21st Century represents a new frontier. This new frontier is characterised by the elimination of industry boundaries, major technological advances, the opening of previously closed global markets and intense global competition (Roux, 1998).

These changes and the business environment now faced by organisations require a new mindset. Standard management thinking and practice were developed when most firms operated in a relatively stable environment, which thrived for nearly three quarters of a century. The old economic policy, shaped by the Great Depression, largely focused on creating jobs, controlling inflation and managing the business

cycle. But the environment of the 21st century represents a new frontier. This new frontier provides a distinctive, exiting and challenging time for companies. It is a time of technological revolution and a global market economy.

The business environment is also typified by substantial, discontinuous change. Multiple strategic discontinuities occur and change is rapid. Periods of stability are short. These substantial changes and the size and complexity of this new frontier produce significant levels of uncertainty (Pink, 2000). Firms must compete in multiple markets and often in multiple countries, each of which has it's own rules and *referees* (such as government policies). This is especially true in the South African context as companies experience not only ongoing competitive pressures, but have to cope with new challenges such as Black Economic Empowerment, Employment Equity, and the fluctuations of the Rand.

The landscape is rigged with many hills, mountains and valleys. Changes in the landscape may occur with little or no warning. A firm may be the market leader one day, but that same firm may find itself down in the valley and *behind* its competitors because of a change in the business landscape.

3.1.1 Drivers of the new business landscape

In this competitive landscape, two **primary** drivers can be distinguished: the **technological revolution** and increasing **globalization**.

3.1.1.1 The technological revolution

The technological revolution is characterised by an increasing rate of technological change and diffusion, greater knowledge intensity and the recognition of knowledge as a competitive advantage. The development and diffusion of new technology require more innovation as companies strive to stay competitive. Likewise, the continuous technology development and change have produced shorter product life cycles and fleeting windows of opportunity. Being first in the market with a new product has become a competitive imperative (Levy, 1998). This allows a company little time to recover tremendous investments in research and development and other expenditures to commercialize the market. Companies therefore have to get to the market as quickly as possible and allow their customers to develop and debug their products. *Launch and learn* has become the new competitive strategy (Farrel, 2003).

Technology can be viewed as “...*the systematic application of knowledge to resources to produce goods and services*” (Roux, 1997). Resources can be both physical and human in nature, the latter encompassing management, labour, capital and what Thurow (1997) calls *man-made brain power*. Technology broadly defined, operates on three levels (Soltynski, 1998):

- the level of physical artefact (the product);
- the skills to use the technology (the process); and
- the environment in which the technology operates (the infrastructure).

This definition of technology does not require that a physical artefact be involved in a particular technology, but without the other two levels, that technology ceases to be viable.

High-technology as a value adding element. Soltynski (1999) argues that high-technology in particular is a major factor in a nation's economic development and thus its ability to compete globally. High-technology industries are defined as industries with a high intensity of R&D. (OECD, 1993). These include aerospace, computers and office machinery, electronics, communications and pharmaceuticals.

One of the most significant high technologies inherent in the technological revolution is information and communications technology. This technology is used in almost all businesses, large and small, and forms an integral part of many systems (e.g. manufacturing systems, inventory systems, communication systems). Companies are using IT to finish work faster and with fewer workers, without raising inflation. Information technology facilitates globalization because it allows ready access to employees all over the world at a nominal cost. It's integration into manufacturing technology is allowing the development of mass customization processes in many product lines, ranging from clothing to vehicles. It is also helping firms to increase their productivity (Soltynski, 2000).

The networked economy. High-technology applications have created changes of which the speed and complexity are difficult to absorb. It appears as if the transition to a networked economy is the largest shift in the way the world functions since the industrial revolution. This era may in future be viewed as the era that bridged the gap between old and new ways of living and doing business (Neuhauser, Bender & Stromberg, 2000). A great deal of attention is being directed at designing, marketing, selling and delivering goods and services in the networked economy. On-line transactions not only increase firm's revenues, they also reduce costs. While business-to-business transactions today represent the largest single segment of e-commerce, many firms are marketing their products directly to the consumer on their web pages. One of the implications of the networked economy is that everything is moving ten times faster than in the pre-net world (Hitt, 2000).

3.1.1.2 Globalisation

Markets are fast becoming borderless or global, and it is difficult to distinguish between international and domestic. The motor vehicle market is a good example. This is evidenced by the merger which created Daimler Chrysler, the acquisition of Nissan by Renault, of Landrover by Ford and of Rolls Royce by Volkswagen. Ford

Motor Company has an interest in Mazda and Daimler Chrysler in Mitsubishi. There have been strategic alliances between U.S. and Japanese car manufacturers. Many BMW, Volkswagen and Mercedes Benz vehicles are now being manufactured in South Africa and sold in other parts of the world, while the South African consumer has a choice of vehicles which include those manufactured in Germany, the U.S., Australia, Japan and Korea.

Globalisation, i.e. “...*the widening, deepening and speeding up of the processes of worldwide connectivity* “ (McGrew, 1998:302), in all dimensions of human life, is no longer simply a peripheral trend. Globalization is a process of integration via the axes of technology and communications infrastructure. But it has also become a structural feature of the global system (De Kock, 1997). The widening, deepening and speeding up of connectivity refer to the fields of finance, production, trade and knowledge generation; in short, economic globalisation. The regulatory changes, and technological and management innovations which facilitated the widening, deepening and speeding up of economic inter-connectivity, are well known.

Firms are endeavouring to become stateless in order to transform themselves into global businesses. As markets become more open as a result of free trade agreements; more foreign firms are entering domestic markets, thereby increasing the amount of competition. Increasing domestic competition in turn puts pressure on firms to move into international markets in order to maintain their competitiveness (Hitt, 2000; Farrel, 2003).

The growing interdependence across national economics was exemplified by the effects of the Asian crisis on global economic growth. In 1998 global economic growth was reduced by 25% because of the economic problems in Asia. The interdependence is also growing as world financial markets are becoming more integrated (Farrel, 2003).

Financial market integration, the interdependence of national economies, the development of borderless markets and stateless corporations and increasing competitive pressures suggest that globalisation has changed the boundaries and nature of strategy, competition and competitive advantage (Hitt, 2000).

Emergence of an entrepreneurial economy. Audretsch & Thurik (2000) note that a fundamental shift is taking place in OECD (Organisation for Economic Co-operation and Development) countries. This shift is the result of globalisation and is **away from** the managed economy to the entrepreneurial economy. The reasoning can be summarised as follows (Audretsch & Thurik, 2000):

- The comparative advantage of high-wage countries is no longer compatible with routinised economic activity (production), which can be easily transferred to lower cost regions outside the developed countries. Maintenance of high

wages requires knowledge-based economic activity that is costly to diffuse across geographic space.

- Change is a force underlying the entrepreneurial economy. Change goes together with knowledge-based activity and knowledge-based activities result in innovations that are more radical than incremental. An inherent characteristic of knowledge is high uncertainty, which individuals assess differently. Differences in the evaluation of knowledge can be more easily handled in new and smaller firms.

Some conclusions. Given the reasoning of Audretsch and Thurik (2000), one could then articulate the following conclusions:

- creating a new entrepreneurial company may be a more viable option to respond effectively to the competitive environment;
- downsizing and management buy-outs may be considered as options to refocus existing businesses and to light and grow an own entrepreneurial spirit;
- restructuring or re-engineering of a business into a collection of horizontal processes, managed independently through multi-functional, multi-skilled teams to handle orders from initial enquiry to final product (at the client), may be a way of creating an entrepreneurial way of thinking and doing as part of a larger corporate structure.

3.1.2 Some characteristics of the new landscape

If the new business landscape is driven by two major factors, the technological revolution and globalisation, what are the changing characteristics that businesses have to face? Prahalad (1998) describes the emerging competitive landscape as eight discontinuities: “...*global, deregulation, volatility, convergence, intermediate industry boundaries, standards, disintermediation and eco-sensitivity*” – and they must be managed simultaneously. One at a time they do not tell the whole story; it is the collective pressure these discontinuities exert that has to be taken note of.

To fully understand these discontinuities, each needs to be discussed briefly (Prahalad, 1998):

- a. **Global.** Companies now need to take an agreement beyond national borders as the global economy changes. As China and India emerge as strong economics, more multi-national companies will need business units there. Globalisation will therefore have a significant impact on both the resource and skill configuration of multi-national firms. Needless to say, the composition of top management in these firms will also be different.

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- b. **Deregulation and privatisation.** One only needs to look at the financial and telecommunications industries to see how deregulation has snowballed, particularly as the focus of these sectors has become international. Mergers and takeovers are commonplace, as companies seek to position themselves and their assets to their best advantage. There is a race to extract value out of the inefficiencies that are inherent in regulation-induced local and regional monopolies.
- Public sector firms move into the private domain, resulting in **unemployment** and rationalisation of assets. Resizing has become a synonym for downsizing. Privatisation produces a significant amount of social disruption as inefficient public sector firms shed obsolete assets, consolidate their businesses and resize their companies. These efforts significantly impact capital flows, unemployment and the need for growth to absorb the workforce rendered surplus.
- c. **Volatility.** Almost all industries are experiencing a new level of volatility. Volatility and seasonality combined create a new set of demands on management. As the demand for products and services fluctuates, focused factories have to dramatically scale up or be closed down. This dilemma is increasingly forcing firms to create *flexible factories* that can serve multiple, related business units. Furthermore, privileged access to suppliers is becoming a major source of concern. Firms must maintain a close relationship with their suppliers to ensure that they will support the marketplace volatility of their end products.
- d. **Convergence.** The convergence of multiple technologies represents a major discontinuity. As business sectors converge, firms must learn to move beyond their traditional areas of expertise to survive. The key issue is that very distinct “*intellectual heritages*” have to be managed and seamlessly integrated. In this regard, the impact of digital technology is having a profound effect.
- e. **Indeterminate business boundaries.** The lines between sectors are blurring and will continue to blur. Competition may come from unexpected **quarters**, so identifying potential threats may be difficult. The boundaries between suppliers, competitors and customers are becoming less defined. Traditional market measures may no longer suffice. Size does not necessarily imply influence and power. Firms form new alliances and opt out of old ones regularly.
- f. **Standards.** There is a change in the way industry standards are created, as market drivers, not policy makers, take charge. Companies are setting their own standards, and the most successful will become the industry standard. Competing coalitions of companies will decide the fate of any given set of standards.
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- g. **Disintermediation.** The distance between producer and customer is shrinking. The multiple distribution steps – wholesalers, dealers and retailers – are **being** reduced to a single distribution step. E-commerce and other new channels emerge as traditional links in the supply chain disappear. In this deregulated zone, there is unlikely to be a dearth of information available to the end-user.
- h. **Eco-sensitivity.** As the world becomes more environmentally conscious, firms are moving away from a compliance-orientated perspective to a business-opportunity-driven viewpoint of environmental issues.

3.1.3 The productivity factor in the new economy

One can hardly doubt the significance of key drivers in the new economy such as the technology revolution and globalisation. Neither can there be doubt that many changes have occurred directly or indirectly as a result of these factors. But, although very much part of this landscape, it is doubtful whether the internet, technological breakthroughs or free trade agreements truly constitute the new economy.

Farrel (2003) argues that the true driver of corporate success in the new business landscape is **productivity**. She quotes the US Bureau of Labour statistics and points out the following:

- Productivity in the US grew at an annual rate of only 1,4% from 1973 to 1994.
- US labour productivity however increased to 2,4% per annum from 1995 to 1999, rose to 2,9% in 2000, decreased to 1,1% in 2001 and increasing again in 2002 to 4,8%.

In South Africa a major contribution to economic growth between 1994-2001 of 2,8% (*versus* 1% between 1980-93) can be attributed to a 3,1% TFP (Total Factor Productivity) during that period, rather than to increases in labour and capital. This implies a significant improvement in technology since 1993 and the efficiency with which labour and capital are being combined (Roux, 2004).

Competition. Farrel (2003) doubts the claim that IT investments drove the productivity gains and acknowledges only a few industries where IT spending could honestly be linked to an improvement in productivity. She postulates that the increasing pace of change in the economy is being spurred not only by new technology, but also by increasing competition, a trend that is in turn partly a product of increasing globalisation. It appears as if one of the most noticeable structural changes in the new economic landscape is the **degree to which dynamism, constant innovation, and adaptation have become the norm**. It seems as if the winning companies have the ability to welcome and embrace these changes. Farrel (2003) cites that managers in those sectors, which experienced productivity growth, were forced to innovate aggressively to protect their revenues and profits in the face

of strong competition. Competition therefore spurs innovation, in both technology and business processes. These innovations spread quickly, improving productivity across the sector. As productivity rises, competition intensifies further (Dyer *et al*, 1999).

In the old economy, fixed assets, financing and labour were principal sources of competitive advantage for firms. But now, as markets fragment, technology accelerates, and competition comes from unexpected places, continuous learning, creativity and productive adaptation are becoming the principle source of competitive advantage in many industries.

3.1.4 The changing business landscape of Schümann-Sasol (SA) (Pty) Ltd

To fully understand the SSSA case it is necessary to grasp the nature of its business environment before and during the crisis, which led to the decision to engage in a transformation.

Before January 1995 Sasol Waxes (Pty) Ltd functioned in a very protected capacity as a business unit within Sasol Chemical Industries. To position themselves globally Sasol entered into the merger with Schümann of Germany. Sasol Waxes (Pty) Ltd became Schümann-Sasol (SA) (Pty) Ltd, the South African branch of the international company Schümann-Sasol International AG.

The new company now had subsidiaries in Germany, South Africa and the USA, and controlled downstream activities in the Netherlands, France and China. A global market orientation therefore replaced a preference for the local market.

SSSA's competitive position was also changing. Because of market growth and competitive pressures, a number of petroleum wax firms were entering the polyethylene wax business. These synthetic polymers were putting pressure on traditional wax applications, including Fisher-Tropsch wax, produced by SSSA.

The competitive position of SSSA as sole supplier of Fisher-Tropsch waxes changed drastically when Shell Malaysia went into wax production during May 1993, using a modified Fisher-Tropsch synthetic process.

The company's competitiveness was worsened by a lack of alignment within Schümann-Sasol International AG, the absence of a corporate governance system and philosophy to manage the economic interdependence of the merger.

The situation was further compounded by SSSA's own lack of vision and strategy, a highly specialised and inflexible structure, uncoordinated marketing, sales and production processes and conflict between the company's management and the Management Board in Germany.

3.2 Building competitive advantage in the new business landscape

There is an increasing pressure on companies and organisations to find new ways to keep ahead of rivals, or even just to survive. This is especially relevant in the South African context as companies experience not only ongoing competitive pressures, but have to cope with changes in government legislation, fluctuations in the Rand and increasing exposure to the international marketplace.

The Institute for Futures Research at the University of Stellenbosch produced an environmental hexagon, which poses that an organisation is embedded in a contextual and transactional environment (Soltynski, 1998). The **contextual** environment provides pressures over which an organisation has little or no control. These pressures originate from changes in the political, economic, social (including demographic changes), institutional or regulatory, and the natural dimensions of the contextual environment. The **transactional** environment may be viewed through Porter's (1996) well-known five-force model: competitive rivalry, buyer power, supplier power, barriers to entry, and the threat of substitutes.

Organisations can apply knowledge and skills to their resources to effectively utilise the transactional environment to cope with the contextual environment. These resources could include **technology, the ability to innovate** and **competencies**. The way they are **managed** often determine the relative competitive position in a particular industry and market.

3.2.1 The Management of technology

When competition intensifies and companies face the possibility of losing customers and profits, managers have many potential incentives at their disposal to pursue creative ways of cutting the cost of their operations and increasing the value they provide to buyers. Price (1996) asserts that because the key to innovation is economic success, **strategic thinking** about technology beyond the simple development of new products and services are required. To think strategically about technology managers have to understand the relationship between organisational structure, management and IT deployment, realise the benefit of IT as a generator of new knowledge and skills and appreciate the potential impact on innovation, productivity and organisational transformation.

3.2.1.1 Organisational structure, management and IT deployment

The National Office for Information Economy in Australia (NOIE, 2003) accentuates the importance of IT in technology forecasting, life-cycle management, the management of partnerships and alliances.

3.2.1.2 Organisational learning and skills development

Organisations report that a key benefit from the way in which they have implemented IT projects is the creation of new skills and knowledge. This strengthens the capabilities and capacity of the organisation for future operation (NOIE, 2003).

3.2.1.3 Process innovation

Some of the IT based innovations come in the form of new products and services (Farrell, 2003). Others are enhancements to existing processes. In many cases new products and processes are tightly intertwined. Thurow (1996) points out that product innovation means little as products can be easily imitated or reverse engineered. He poses that the most important part of technology is process technology – having the knowledge, skills and potential ability throughout the organisation to put new things together and the ability to manage the production process (Thurow, 1996:68-69).

3.2.1.4 Productivity improvement

Organisations attribute productivity improvements not only to actual IT systems being implemented, but also indirectly to the processes associated with preparing for and undertaking implementation. This includes process re-engineering, participative arrangement, etc. (NOIE, 2003). Specific sources include:

- work process re-engineering and simplification;
- reduced process cycle time;
- data sharing and elimination of duplication;
- reduced re-work;
- automated reporting and analyses;
- direct customer entry of data and access to systems;
- scalability of systems, allowing transaction volume growth to be handled without additional resources;

3.2.1.5 Transformation improvement

It appears as if even an organisational transformation could benefit from IT implementation, if managed well. To fully appreciate this, it must be kept in mind that the transformation of an organisation is closely related to variables such as culture, strategy, structure and leadership (Cummings and Worley, 2001). Research by the

NIOE (2003) revealed the following benefits originating from IT application on organisational transformations:

- new processes subsuming old;
- more capacity to provide more and varied services;
- changes in the business model, core business and business objectives;
- improved skill levels and skill mix;
- development of an innovative work culture;
- improved communications and increased confidence in using and implementing IT;
- improved morale.

3.2.2 Innovation

Enabling constant innovations has become the goal of any organisation committed to prospering. In today's fast changing environments, global corporations need to be innovative in order to sustain their market position and competitive advantages (Bartlett and Ghoshal, 1998; Chiesa, 1999; Dunning, 1994). They face considerable pressure to quickly and effectively respond to local market needs, while achieving global efficiency (Prahalad, 1999). This has led some global companies to recognise the need to leverage innovation that occurs within their subsidiaries to meet global needs.

Bartlett and Ghoshal (1993) note that changing local conditions place unique pressures on subsidiary managers to be responsive to the opportunities that exist in their immediate environment. Porter (1986) suggests that subsidiaries facing sophisticated demand conditions and competitive national environments have to engage in more entrepreneurial activities such as initiating strategic renewal, developing new products or processes or spawning new ventures in order to compete in the dynamic local markets. Consequently, the local environment context can spur entrepreneurship within subsidiaries.

To better understand innovation within the broader context of competitiveness, a distinction should be drawn between product or service innovation and strategic innovation.

3.2.2.1 Product or service innovation

Innovation can be viewed as the application of new knowledge, the use of new resources or the production of new goods or services. Indeed services are the hallmark of the New Economy. In the United States between 1969 and 1995, virtually all the jobs lost in the production or distribution of goods were replaced by jobs in offices. Today 80% of workers in the US (93 million jobs) do not make things.

Instead, they move things, process or generate information, or provide services to people (Soltynski, 1999).

Innovation can apply to products or processes that can be either internal to the organisation, or external, whether financial, marketing, administration, information management - and not just manufacturing or production processes (Soltynski, 1998).

Innovations are often developed in response to requests and ideas of suppliers and customers. Lead users can also help a company to refine its innovations and make them more friendly (Von Hippel, 1989). These innovations can improve a company's ability to meet existing demands in current markets or venture into new ones.

In many industries, companies depend on new products, i.e products introduced within the last five years or less, for more than 50 percent of their sales (Schilling and Hill, 1998). So in effect, **the introduction of new products is the dominant driver of competition** and as such it is of key strategic importance. It is certainly not without risk, as borne out by a recent survey which found that only 55 percent of new products launched were adjudged to have been a commercial success (Balbontin *et al*, 1999), and this representative figure does not take into account those new product projects which failed to even result in a product at all.

The importance of being first-to-market. Being first to the market with a product has considerable strategic advantage which can result in considerable profit. Some of the components of this advantage include (Dyer *et al*, 1999):

- full utilization of the product life-cycle;
- pricing freedom, far more so than what later entrants to the market have;
- a better success rate and a higher customer satisfaction with their products than those who arrive late.
- the ability to set *de facto* standards, and benefit from licensing and patent arrangements with those who follow;
- economies of scale;
- the pre-emptive acquisition of scarce resources, whether physical or human;
- a reputation and the perception of being a market leader.

3.2.2.2 Strategic innovation

Strategic innovation may be thought of as finding or creating a new way or ways of doing things what Markides (1997) refers to as *changing or even breaking the rules of the game*. Porter (1998) describes it as “...*the creation of a unique and valuable position, involving a different set of activities*”.

a. **Operational efficiency as substitute for strategic innovation.**

Most organisations today try to encourage growth by focusing exclusively on pulling the conventional levers such as cutting costs, developing incrementally better products and services, strengthening their distribution chains, looking for more profitable customers and putting pressure on suppliers. Porter (1996) argues that because companies have become so focused on improvements in productivity and quality, and have positioned themselves to act and react more quickly, they have confused operational efficiencies and strategy.

Porter (1996) points out that the implementation of management techniques such as total quality management, business process re-engineering, outsourcing, and even take-overs and mergers, have mostly led to short term results. Such non-innovative processes and structural changes are not sustainable in the longer term as rivals quickly copy and adapt to such moves. Such improvements are only incremental. **What is required is the fundamental redefinition of a company.**

b. **Characteristics of a strategic innovation.**

How should strategic innovation be produced and what does it look like? According to Markides (1997) strategic innovation can be stimulated by redefining the business: in essence asking **what** business are we in? Subsequent questions could include:

- Who is our customer?
- What product or services are we offering?
- How are we doing this?

Porter (1996) recommends a similar type of approach. A company should examine amongst others, the following:

- it's positioning;
- it's competitive pressures;
- it's trade-offs, and;
- it's fit.

Hamel & Välikangas (2003) take the concept of strategic innovation much further. They maintain that three essential forms of innovation should be mastered:

- **Revolution.** Whether a newcomer or an old timer, a company needs an unconventional strategy to produce unconventional financial returns. Industry revolution is creative destruction. It is innovation with respect to industry rules.

- **Renewal.** Newcomers have one important advantage over incumbents – a clean slate. To reinvent its industry, an incumbent must first reinvent itself. Strategic renewal is creative reconstruction. It requires innovation with respect to one's traditional business model.
- **Resilience.** Resilience refers to a capacity for continuous reconstruction. It requires innovation with respect to those organisational values, processes and behaviours that systematically favour perpetuation of innovation. It is the ability to dynamically reinvent business models and strategies as circumstances change. It means having the capacity to change before the case of change becomes desperately obvious.

3.2.3 Organisational competencies

The third major source of competitive advantage is competencies. In the past, a company's capital consisted of tangible assets such as buildings, machines and finished goods. In the new economy, value has shifted from tangible to intangible assets.

Sveiby (1999) defines intangible assets as **internal structures**, (systems, patents, etc.) **external structures** (customer and supplier relationships and an organisation's image) and **competencies** of people to make the internal and external structures work well.

3.2.3.1 Composition of competencies

Prahalad (1998) recognizes two broad systems of competencies:

- people-embodied knowledge – both tacit and explicit;
- capital-embodied knowledge – both proprietary and vendor-based.

It is the combination of both people-embodied and capital-embodied knowledge which represent the totality of the competence-base within an organisation.

To manage this competence-base effectively, understanding the relative importance of the various elements in a firm's competency profile, is a requirement (Prahalad, 1998). Companies with one location or multiple locations around the world will, for example, have to be managed differently. The development of a new competence will have to explicitly recognize the role of individuals, teams, the whole organisation **and** the process by which individual excellence, scientific knowledge, creativity and imagination are transferred to team expertise and organisational capability. (Prahalad, 1998).

One of the key factors in achieving strategic competitiveness is undoubtedly highly developed human capital or people-competencies. This requires systematic and substantial investment in the training and development of people (Hitt, 2000; Hiltrop, 1998).

Pfeffer (1994) observes that traditional sources of success, such as product and process technology, protected or regulated markets, access to financial resources, and economics of scale, can still provide competitive leverage but to a lesser degree than in the past. This leaves organisational culture and capabilities, derived from how people are managed, as comparatively more vital.

3.2.3.2 Knowledge transfer and learning

To successfully utilise human capital, managers and knowledge workers must think in new ways, build portfolios of skills, and harness and utilise new technology. Managers must emphasize the creation of knowledge, diffuse it throughout the organisation and ensure that it is utilised.

To develop such human capital, a process of continuous learning is required. Furthermore, for a company to take full advantage of this knowledge and to ensure that it is diffused throughout the organisation, management should consider the following (Hitt, 2000; Prahalad, 1998; Drucker *et al*, 1997):

- If a company wants to do business worldwide, it must manage multiple locations, multiple cultures, multiple skill sets and multiple business perspectives. In this process learning is essential.
- If a company wants to enter into collaborative agreements and alliances that are designed to transfer skills across firms, learning will be important to protect critical intellectual property, demanding that people will be open to new ideas while protecting vital company interests.
- Since speed is a major factor in the competitive landscape, companies will have to absorb new knowledge across markets and businesses at speed.
- Knowledge is different from all other kinds of resources. *“It constantly makes itself obsolete, with the result that today’s knowledge is tomorrow’s ignorance”* (Drucker *et al*, 1997:22).

Implications. To successfully transfer knowledge and to create new competencies management must be aware of a number of implications. Suffice to mention only two:

- In a turbulent and ever-changing business world, replacing the skills and competencies that have provided people with jobs and careers for many decades, is becoming a necessity, not an option. It could mean that only those focusing on change and those emphasising continuous development and

adaptation, will survive (Hiltrop, 1998). Organisations and their managers must therefore recognise the necessity of developing the mindsets, skills and abilities that will allow people to cope with the demands of the new age.

- Knowledge makes resources mobile. Knowledge workers, unlike factory workers, own the means of production: they carry their knowledge in their heads and therefore can take it with them. As a result more and more of the critical workforce – and the most highly paid part of it – will increasingly consist of people who cannot be “managed” in the traditional sense of the word. In many cases they will not even be employees of the organisation for which they work. They will be contractors, experts, consultants, part-timers, joint-venture partners, etc. These people will identify themselves by their own knowledge rather by the organisations that pay them (Drucker *et al.* 1997).

3.3 The shift to a new paradigm

To respond to the challenges of the new competitive landscape new managerial mindsets that are global in orientation and allow for strategic flexibility, are demanded. Managers must be able to think globally but also react quickly and operate in a necessary continuous state of change. This requires nothing less than a fundamental re-definition of an organisation, as suggested by Hamel and Välikangas (2003). Organisations experiencing failure and pain are usually willing and keen to engage in serious change – often too late, because the new landscape requires change before it becomes obvious.

The most stubborn organisations that will resist change with the greatest tenacity are those who functioned well and have been rewarded for their performance. If a consultant approaches the management of such an institution to tell them that their recipe for success is no longer viable, their personal experience belies the consultant’s diagnosis.

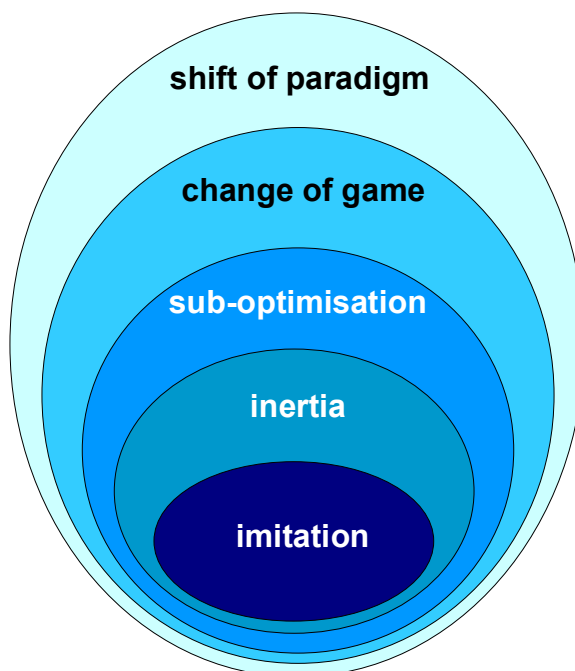
One way to understand the forces that convert success to failure and the realities of the changing game, is to apply the thinking associated with the *dual paradigm shift* (Gharajedaghi, 1999).

3.3.1 Forces that convert success to failure

The forces that make a failure out of success form a five level hierarchy (see figure 3.1). *“Each represent a distinct tendency, but together they form an interactive whole in which higher levels provide the context for the lower levels. At each level success plays a critical but different role”* (Gharajedaghi, 1999:4).

Figure 3.1

Hierarchy of forces that erode competitive advantage



Source: Gharadaghi (1999)

- **Level 1: Imitation.** Imitation is the most basic force. Competitive advantage is by definition a distinction. Successful distinctions, in time, are eroded by imitation. Advances in Information Technology, communication and reverse engineering have increased product technologies' vulnerability to imitation. Any technology distinction can now be learned, copied and reproduced in practically no time. At that point, exceptions become norms and lose their advantage.
- **Level 2: Inertia.** Inertia is responsible for all the tendencies and behaviours that delay reactions to technological breakthroughs. The more success an organisation has with a particular technology, the higher its resistance to the prospect of change. The initial reaction is always denial. The real danger however arises when the organisation finally decides to patch things up. Patching wastes critical time. It provides the competition with a window of

opportunity to disseminate the new technology and dominate the market (Gharajedaghi, 1999:6).

- **Level 3: Sub-Optimisation.** Exaggeration – the fallacy that if “*X is good, then more X’s is better*” – is the core of the third level forces that effectively destroy a proven competitive advantage. A tendency to push ones strengths to its limits transforms the strengths into a destructive weakness.
- **Level 4: Changing of the game.** The change of the game or *transformation of the problem* is at the very heart of a counter intuitive process that converts success into failure. In other words, playing the game successfully changes the game itself. Henry Ford’s success in creating a mass production machine effectively dissolved the production problem. A familiar concern for production was replaced with an unfamiliar concern for markets. To mass-produce lost it’s advantage through widespread imitation. The competitive game therefore changed from a concern for production to a concern for markets (which required a new ability: to manage diversity and growth). Henry Ford’s refusal to appreciate the implication of his own success and his unwillingness to play the new game (“*they can have any colour as long it is black*”) gave Alfred Sloan of General Motors the opportunity to dominate the automotive industry. Sloan’s concept of a product-based divisional structure, turned out to be an effective design for managing growth and diversity. This new game became the benchmark for the rest of the world to copy (Womack *et al*, 1990).
- **Level 5: Shift of paradigm.** The cumulative effects of imitation, inertia, sub-optimisation and the change of the game, ultimately manifest in a fifth force, a shift of paradigm. A shift of paradigm can happen purposefully by an active process of learning and unlearning. Gharajedaghi (1999) refers to it as a reaction to frustration, produced by events that nullify conventional wisdom. Faced with a series of contradictions that can no longer be ignored or denied, or an increasing number of dilemmas for which prevailing mental models can no longer provide convincing explanations, most people accept that the pervading paradigm has ceased to be valid and that it has exhausted its potential. Thus begins a painful struggle, the end result which is a re-conceptualization of critical variables into a new ensemble with a new logic of its own (Gharajedaghi, 1999).

3.3.2 The dual paradigm shift

According to Gharajedaghi (1999), shifts of paradigm can happen in one of two ways: either by a change in the nature of reality, or a change in the method of inquiry. The possibility of a dual shift, involving both dimensions, complicates how the game is changing even further.

The significance of any paradigm shift cannot be over estimated, but a dual shift is a formidable challenge. It tests the outer limits of human capacity to comprehend, communicate and confront problems. For example, the shift of paradigm from a mechanical to a biological model of organisations, despite its huge impact, represents only a shift in organisational models.

Gharajedaghi (1999) reasons that the business world are now facing the challenge of dual shift – a shift in conception of the organisation from a biological model to a *socio cultural model*, or a multi-minded system, **and** a shift in the method of inquiry – the means of knowing – from analytical thinking (dealing with independent sets of variables) to holistic thinking (handling inter-dependent sets of variables). The complementary nature of these two dimensions is at the core of both understanding how the game is changing and identifying the drivers to change (Gharajedaghi, 1999).

3.3.2.1 The first paradigm shift

The first paradigm shift involves moving from a biological model to a socio cultural model. This new model views the organisation as a voluntary association of purposeful members who manifest the choice of both ends and means. Mechanical or biological models cannot explain their behaviour in terms of systems whose part display *choice*. Therefore, a social system must be understood on its own terms. For Ackoff (in Ackoff & Emery, 1972) and Gharajedaghi (1999), these terms are *purpose and information bonded*.

Ackoff (in Ackoff & Emery, 1972) cites that an entity is purposeful if it can produce the same outcome in different ways in the same environment, as well as different outcomes in the same way in different environments. As a purposeful system, an organisation forms part of a larger, purposeful whole society. At the same time, its members consist of purposeful individuals. The result is a three level hierarchy of purposeful systems: society, organisation and individuals. Aligning these purposeful parts with each other and that of the whole is the main challenge of the system. Under the socio-cultural model, an organisation's purpose is to simultaneously serve the purposes of its members and of the environment.

In the biological model, *growth* is the measure of success, the single most important performance criteria, and profit is the means to achieve it. Under the biological model, profit drives change. The differences become pertinent when compared to the socio-cultural view, which considers the purposes of its members and the environment as the main change drivers.

In addition, as noted earlier, the elements of a socio cultural system are information-bonded, in contrast to the elements of the mechanical system, which are energy-

bonded. Information-bonded relationships are an agreement based on common perception (Gharajedaghi, 1985).

Buckley (1968) saw the socio-cultural system as a set of elements linked almost entirely by intercommunications of information. Information-bonded relationships bring an organisation of meanings that emerge from a network of interactions among individuals. Information-bonded interactions in business and industry are becoming more common each day.

Some of the changed thinking in organisations as a result of this first shift, could include:

- looking at an organisation from an external rather than an internal perspective and viewing an organisation as a sub-system of a larger global system;
- switching from a profit-only orientation to serving the stakeholders (stakeholders include members of the community, in order to stay viable);
- the meaning of energy changes since energy needs not now be generated by mechanical systems, but primarily by information and knowledge exchanges.

3.3.2.2 The second paradigm shift

This second paradigm shift is about the change in the nature of inquiry. It is the change from the use of analytical thinking to systems thinking. Analytical thinking and systems thinking are quite distinct. Handling independent variables is the essence of analytical thinking. It assumes that the whole is nothing but the sum of its parts. Increasingly, however, independent variables are no longer independent. As systems become more sophisticated, the reality of interdependency becomes more pronounced. Understanding interdependency requires a way of thinking different from analyses: it requires systems thinking (Gharajedaghi, 1999).

Analytical thinking uses a three-step thought process:

- first, it takes apart that which it seeks to understand;
- then it attempts to explain the behaviour of each part separately;
- finally, it tries to exaggerate understanding of the parts into an explanation of the whole.

Systems thinking uses a different thought process. It puts the system in the context of the larger environment of which it is part and studies the role it plays in the larger whole. In contrast to analyses, this process is synthesis. Wardman (1984) quotes Ackoff who argues that synthesis is the opposite of analysis. with synthysis high level

understanding is achieved, while with analysis only knowledge is attained. Synthesis is defined as a three-step process (Wardman, 1994):

- Step 1: determining the largest system in which the system is to be examined;
- Step 2: trying to understand the largest system as a whole;
- Step 3: disaggregating the understanding of the whole into an understanding of the parts by identifying its role or function in the larger system.

3.3.2.3 New learning required

Gharajedaghi (1999) poses that to reach the other side of the paradigm shift, significant development in terms of learning is required. This could include learning a new holistic language, learning a language of systems, and learning a language of interaction and design that will help people learn a new mode of living by considering various ways of seeing, doing and being in the world. People who assist organisations with change, can then design new methods of inquiry, new modes of organisation and create a way of life that will allow the rational, emotional and ethical choices for interdependent, yet autonomous social beings.