

## **CHAPTER 3**

### **THE CONCEPT AND DRIVERS OF CHANGE IN THE BUSINESS ENVIRONMENT**

#### **3.1 INTRODUCTION**

Chapter 2 outlined historical events that gave rise to and impacted on the development of management accounting. Return to diagram 2.2 for an illustration of important historical events and the evolution of business accounting. The question posed in chapter 3 is whether the world of business is once again evolving due to changes in the environment. This chapter defines the concept of change as the driver of new challenges in the business environment and the world of the management accountant. The impact of change on the business environment will be discussed to contextualise the research and note the dynamics in which management accounting functions. Sulaiman and Mitchell (2005:423) support this when they state that in the quest to understand real world management accounting understanding change must become a focal point.

#### **3.2 THE CONCEPT OF CHANGE**

The word “change” is often used to indicate a result. A very simplistic definition of change appears in the Samson and Reid *Oxford Children’s Dictionary* (1994:195) which defines the change as *to make or become different*. This definition is brilliantly illustrated by the change of the caterpillar into a butterfly. Note that there is a complete difference between one state and the next.

Van der Merwe and Van der Merwe (1993:9) state that change derives from the Latin verb “to barter”. One meaning of barter is to pass from one state to another. Cross, Feather and Lynch (1994:270-271) support this definition, stating that

change is something that starts or ends and that it is external to a person. These definitions suggest that change is an observable event.

The *Oxford References online* (2005:1) adds a new dimension in saying that change does not have to be a drastic intervention but may be something that occurs steadily. Norris, Hurley, Hartley, Dunleavy and Balls (2000:125) take the above definitions a step further by contending that change generates more change, and that change follows its own laws.

It is clear from the above definitions that there can be no simplistic view of change. Change is pervasive (Van der Merwe & Van der Merwe 1993:9), fraught with uncertainty and ambiguity. The more complex the change (Norris *et al* 2000), the more difficult it is to endure. It follows that there must be different ways in which to conceptualise change. Tranfield (1990:8-9) classify change into morphostatic change and morphogenic change:

*Firstly there is **morphostatic change** which preserves an order by treating disturbance as external noise requiring minor adjustments to block out the change. Change in this morphostatic sense is therefore incremental.*

*Secondly there is **morphogenic change** which treats disturbance as information about internal conditions and suggests that the system should respond by altering orders. In this way, change in a morphogenic sense produces a logically different order than that which came before.*

Tranfield (1990:10) suggest these typical questions associated with morphogenic change:

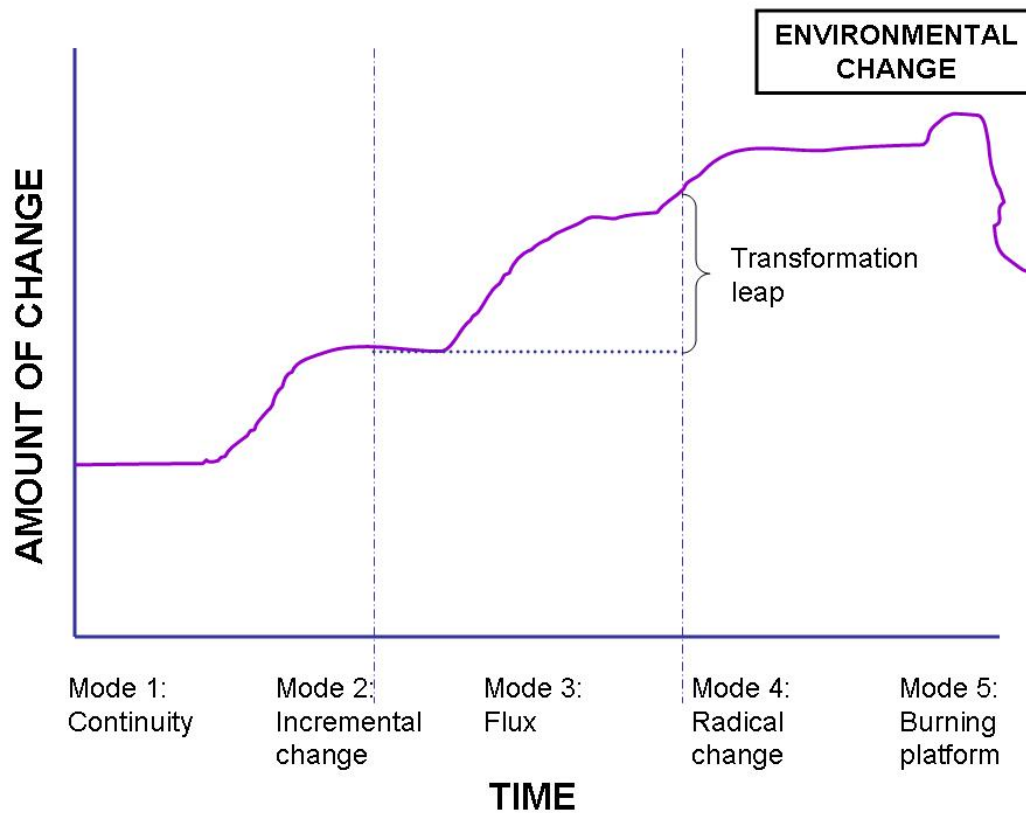
- What is our current situation?
- Where are we going?

- Which steps are needed to get there?

If the definitions of change are considered in conjunction with the history of management accounting, it becomes clear that the latter had to deal with both morphostatic and morphogenic change in the past. Morphostatic change occurred during the First Management Accounting Revolution (see paragraph 2.4.3) when the changes were incremental and required minor adjustments. However, the Second Management Accounting Revolution (see paragraph 2.4.4) points to management accounting undergoing morphogenic change. In their book, *Relevance lost*, Johnson and Kaplan (1987:18) for example say, that management accountants had to devise a logically different order to remain relevant.

This notion of management accountants facing both morphostatic and morphogenic change is further supported by Schultheis and Sumner (1992:38). These authors describe the reaction to change of a person or object and contend that this reaction depends on the nature of the change perceived by the person or object. The reaction of management accountants to change is illustrated by an adaptation of a diagram on strategic change developed by Schultheis and Sumner (1992:39).

**Diagram 3.1: Reaction of management accountants to strategic change**



*Source: Schultheis & Sumner 1992*

Diagram 3.1 above illustrates that the reaction of the person or object (in this case the management accountant) undergoing the change depends on the extent of the change the person or object experiences. The person or object or management accountant will at first, while the change is minimal, follow a strategy of inactivity (mode 1). During this period the management accountant simply “goes with the flow”. They go about their business with no regard to change in their environment. However, doing so involves a high degree of risk because the environment is dynamic and will eventually enforce change. This strategy of inactivity is destined to fail, as is evident from the history of management accounting.

Mode 2 in diagram 3.1 illustrates that the management accountants of old had to deal with incremental change. The changes they introduced made sense in the short term, but because the environment was changing fast, a situation of flux occurred (mode 3) and there was no clear direction for the changes that were taking place. The approach that is usually followed during these periods is proactive. This means that those who are undergoing the change will try their best to determine the shape of the future and attempt to prepare for that future. Hamel and Prahalad (1994:23) have labelled this approach as *maintaining strategic fit*. However, according to Schultheis and Sumner (1992:39), this approach to change is destined to fail because the future is very different from the past (mainly due to technological advances) and therefore unpredictable. (Refer to paragraph 2.4.3 on the First Management Accounting Revolution again.) It should be clear that if management accounting maintained the route it was on during this period, it would have failed as a profession and would have had no relevance to today's business environment.

Mode 4 in diagram 3.1 above refers to a period of radical change. Radical change causes crises, and a proactive approach is required to face this kind of change. This is the most risky and challenging approach but according to Schultheis and Sumner (1992:46) by far the preferred one because it allows the person or object to design the future and make it happen.

An example of such a proactive approach was when Microsoft decided to promote personal computers at a time when IBM was leading the field with its mainframe computers. Microsoft's approach was based on the belief that the future is not pre-ordained and that man can in fact shape his own destiny. The history of management accounting reveals that management accountants have been following a proactive approach. This proactive approach stimulated the development of new management accounting systems that will help to make sense of future challenges in the business environment (see paragraph 3.3).

The last mode in diagram 3.1 (the burning platform) indicates a point where it is already too late to change. In paragraph 3.2.1 below the effect of how change throughout world history created new challenges that had to be overcome, is examined.

### 3.2.1 Change – the driver of challenges

In the 1970s most people viewed change as predictable and dangerous. Some, however, like Toffler (1970:4), conceived change as a process and the rate of change in society as exponential. In 1980 Toffler expanded on this notion by illustrating that the economic world, as it is known today, evolved through waves and that each wave brought its own specialisation (diagram 3.2). Each wave of change also brought a time of discontinuity or dissatisfaction with existing realities. Every wave was characterised by an early period of dislocation, followed by a long spell of maturity, and eventually its demise. New technologies replaced the old, and in the process societal and business structures became obsolete (e.g. when 18th century agricultural workers started to work in the factories).

**Diagram 3.2: Summary of Toffler's (1980) three waves of economic discontent**

Waves of change	Approximate duration	Driving force	Type of change	Period of discontent
First Wave	8000 BC – mid 18 <sup>th</sup> century	Physical labour	Agricultural Revolution	1750 –1850
Second Wave	Mid 18 <sup>th</sup> century – late 20 <sup>th</sup> century	Machines and blue-collar workers	Industrial Revolution	1960-2000
Third Wave	1960s to date	Information technology & knowledge workers	Super Industrial Revolution	

*Source: Adaptation of Toffler, 1980:27*

Toffler (1980:27) believes that world history has been marked by two completed waves of change, the first taking thousands of years to reach completion whereas the second took a mere three hundred years. In each case the transition periods, marked by an era of discontent, paved the way for the new wave. Features of these transition periods were chaos, disengagement from the status quo, transformation, and repositioning until a new equilibrium was reached. In terms of diagram 3.2, the periods of equilibrium cannot be pinpointed at the onset of a new wave, but it is known that the periods of discontent occur at ever shorter intervals.

The question is: has the Third Wave reached maturity?

Handy (1995:28) believes that the Third Wave is nearing its end, as disturbance has never been as extensive as it is now. Handy (1995:29) bases this deduction on events experienced in the money markets, such as the radical currency fluctuations over the past years and discussions at the time about introducing a single currency in Europe. Toffler (1980:262) seemed to agree that the Third Wave was nearing its end when he said, *technology creates technology*, as this implies that the current wave would not be able to encompass all of changing technology.

Hope and Hope (1997:13) are of the opinion that a new wave has already been marked by an infusion of digital technology into the existing Third Wave, carrying the notion of the end of the Third Wave even further. The International Federation of Accountants (IFAC) (2001:8) refers to *change in the dynamics of change with change happening at high speed and with heightened unpredictability and ambiguity*. The radical changes facing management accounting have been summed up by a management accountant during a survey of the current business environment:

*The change is accelerating as we go. The change in the last five years is more dramatic than say the previous five or ten years (Siegel & Kulesa 1996:21).*

This phenomenon of rapid change is summarised in diagram 3.3.

**Diagram 3.3: The changing view of change**

<b>View of change in 1970</b>	<b>View of change beyond 2000</b>
A destination	A journey
An event	A process
Episodic	Continuous
Quite predictable	Near chaotic
Dangerous to risk	Required to survive

*Source: McGregor 2000:1*

### **3.3 THE CHANGING BUSINESS ENVIRONMENT**

Hill (2003:6) and Rifkin (1995:3) identified three factors or “drivers” that are responsible for the rapid change in the business environment:

- globalisation
- information technology
- the knowledge economy.

#### **3.3.1 Globalisation**

Globalisation is a relatively new concept but it is arguably the most important economic phenomenon in today’s business environment. The *Encarta World English Dictionary* (2005:1) defines globalisation as “operation at international level: the process by which a business or company becomes international or



starts operating at an international level". Hill (2003:6) mentions that globalisation refers to *a shift toward a more integrated and interdependent world economy*, and Hawkins (2001:191) uses globalisation as an adjective to mean *of the whole world: worldwide*.

"Globalisation" means that geographical boundaries are rapidly losing their influence and that more and more businesses are competing in respect of product and service delivery world-wide. Statt (2004:58) refers to:

*the process of ever-increasing world-wide integration of cultures, societies and, especially, economies. This process has been made possible by high-speed COMMUNICATIONS and has led to a global market place in goods, services and CAPITAL as well as the emergence of a global workforce.*

### 3.3.1.1 Markets

The globalisation of markets is best described by McGregor (2000:4): *The world's largest companies have become virtually stateless, without a recognisable home country*. McGregor refers to the merging of historically distinct and separate markets into one huge marketplace, implying that individual markets such as the German market or the American market are slowly disappearing; only the global market remains. Smit (2005:44) sums it up aptly when she says that globalisation is *... good for business*. The creation of single markets by the European Union and the North American Free Trade Agreement (Nafta) are clear examples of markets that were formerly protected against foreign competition but have now become more open. These single markets are bringing about complex business structures and competition in multiple markets (ICCA 1998:2).

Diagram 3.4 reflects the decline in United States (US) world economic dominance (Hill 2003:31). The US was the dominant economic player in the

1960s, but its market share has been cut in half by the West European and South East Asian markets.

**Diagram 3.4: The changing pattern of world output and trade**

<b>Country</b>	<b>Percentage world output 1963</b>	<b>Percentage world output 1997</b>	<b>Percentage world output 1998</b>
United States	40,30	20,80	12,70
Japan	5,50	8,30	7,26
Germany	9,70	4,80	10,00
France	6,30	3,50	5,70
United Kingdom	6,50	3,20	5,10
Italy	3,40	3,20	4,50
Canada	3,00	1,70	4,00
China	-	11,30	3,40
South Korea	-	1,70	2,45

*Source: Hill 2003:17*

### 3.3.1.2 Products

Since the end of World War II there has been a constant drive to promote the free flow of goods, services and capital. This drive contributed to the globalisation of production. Hill (2003:23) states that in the 1990s, cross-border trade and investment grew more rapidly than global output, giving rise to relentless competitive pressure. This ongoing pressure requires restructuring, innovation and new business processes (ICAA 1998:11). Globalisation has for example caused the distinction between the banking and insurance sectors to become blurred. Some brands, such as Coca-Cola, are found in every country across the world. Specialisation is increasing as more and more companies unbundled to

focus on their core business (Hill 2003:34). The mining industry in South Africa is an excellent example of this phenomenon. This industry has seen significant change since the early nineties, and traditionally South African organisations such as Anglo American and De Beers are now listed on the UK stock exchange (Mbendi 2005:1).

The benefits and costs of the emerging global economy are starting to surface. The Institute of Chartered Accountants of Australia (ICAA) (1998:33) has for example predicted that large investments would be required to fund global operations, which could reduce the cost of capital in the long run. The ICAA (1998:17) believes that globalisation could require a universal business language as well as a universal business currency. Albrecht and Sack (2000:5) state that faster transportation and instantaneous information have turned the world into one giant marketplace. Companies now have to remain aware of local competitors as well as competitors in foreign countries. If an inferior-quality product is produced, this no longer has just a local impact - the whole world comes to know about it. Steve McGregor (2000:3), a former representative of the South African Institute of Chartered Accountants, said in an address to the South African Accounting Association that South Africa has to respond to this global competitive pressure by acquiring new and/or increased levels of knowledge, skills and expertise.

### *3.3.1.3 Business practice and legislation*

Global business operates around the clock (ICAA 1998:18). The ICAA (1998:18, 20) emphasises that global transactions will become increasingly more complex, involve different parties and several accounting, legal, financial and regulatory systems.

Globalisation will have a major impact on corporate culture. *How do you get 10 000, 20 000 people across the world working to the achievement of the same objectives?* How do you make sure that workers of the same company but in different countries ascribe to an appropriate corporate culture for that company?

#### *3.3.1.4 Restrictive national borders*

Rapid globalisation drives down the wage rates of workers in the developed nations and they see their jobs being “exported” to low-wage locations in the developing world (Hill 2003:24). Another outcome of globalisation is a “brain drain”, and the underdeveloped countries are rapidly losing a large component of their highly skilled workers. This phenomenon already poses a major challenge to South Africa. It is estimated that 11 jobs are lost internally for every single skilled South African leaving the country (Ludski 2001:1).

#### *3.3.1.5 Growing poverty*

The ever-increasing gap between the world’s poorest and the world’s richest countries are highlighted by globalisation. Hill (2003: postscript) mentions that in 1870 the average per capita income in the world’s 17 richest countries was 2,4 times that in other countries. In 1990 the same group of countries was 4,5 times as rich as the remaining countries.

The growing economic gap necessitates bringing the developing countries into the global trading system to enable them to share in the prosperity that is created. Not attending to this demand could have dire consequences for world stability (News24.Com 2005:1). Mandela (1998 *I*) has actually called poverty a *new human rights issue*.

### 3.3.1.6 Increasing suppliers of education

Businesses source staff and training products from international markets and global suppliers of education are emerging to meet this demand. There has already been an increase in virtual global universities (ICAA 1998:50). In South Africa, for example, a number of international universities have entered the higher-education market and many local residential universities are providing telematic education (Uys 2005:2). According to Evans and Nation (1993:7), *distance education is at the forefront of educational responses to changes nationally and internationally.*

Globalisation is dramatically changing the business world and the way business is done. It is significant though that globalisation not the only driver of change in the business environment. Lowering trade barriers has globalised markets and production, but information technology made the change a reality.

### 3.3.2 Information technology

Rifkin (1995:13) stated a decade ago that *We are being swept into a powerful new technology revolution...* The strategic implications of information technology (or IT) in the business world have been and continue to be extensive. However, before these strategic implications can be addressed, "IT" has to be defined. Oxford References Online (2005:l) defines IT as the *use of systems for storing, retrieving and sending information.* Clearly the definition of information technology depends on the evolutionary stage of IT that is referred to.

The South African Institute of Chartered Accountants (2004a:613) defines IT in terms of the environment and by three auditing practice standards applied in South Africa: SAAPS 1001 (2004:613) for stand-alone personal computers, SAAPS 1002 (2004:620) for online computer systems, and SAAPS 1003 (SAICA 2004a:631) for database systems.

Diagram 3.5 illustrates the impact of IT on business structures over a number of years.

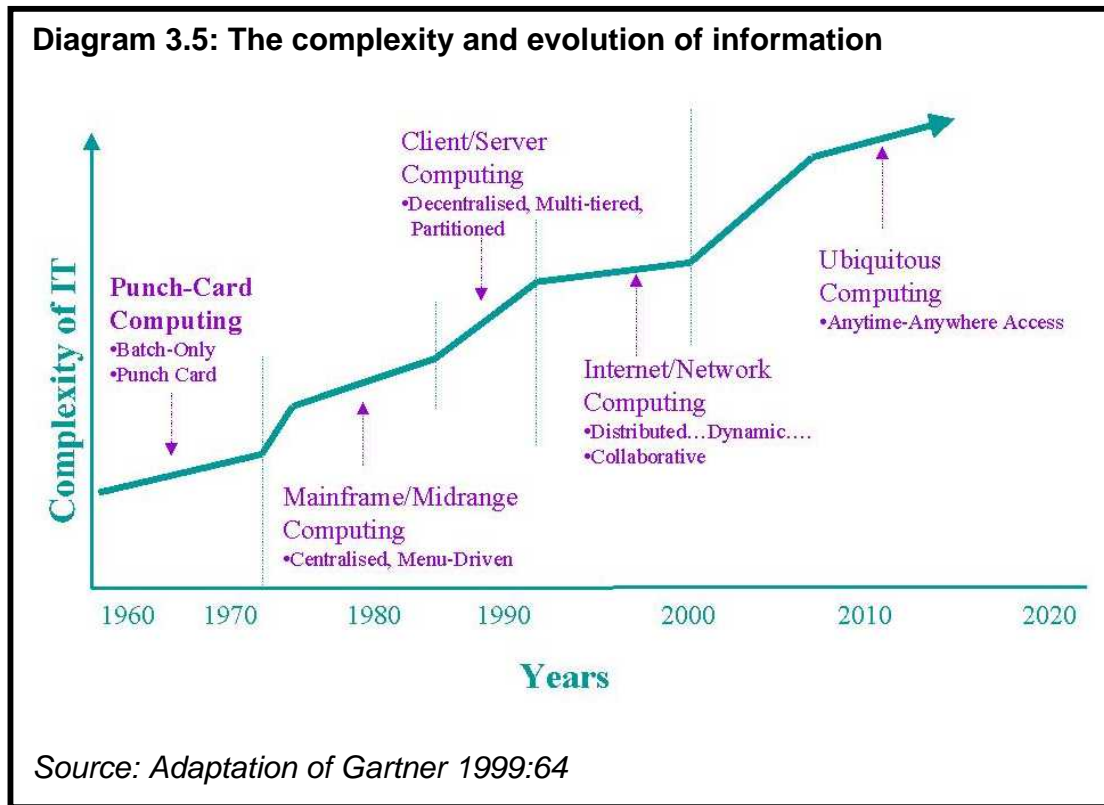


Diagram 3.5 shows that the IT learning curve has been incremental and cumulative since the 1960s. This diagram emphasises that IT had a relatively unimportant impact on the business environment in the 1950s and 1960s (e.g. punch cards and savings). The next stage of IT development had a bigger impact on the business environment if we consider work improvement and task mechanisation via mainframe computers. The impact of the current development stage of IT (e.g. the internet and ubiquitous computing) on the business environment required a reshaping of business models.

Diagram 3.5 illustrates that technological advances caused IT to be labelled the most pervasive and far-reaching of the three change drivers in the business world (see paragraph 3.3).

Information technology has, either as a catalyst or as an enabler, directly influenced the other two drivers of change (see paragraph 3.3). The Institute of Internal auditors (IIA) (1999:49) states that information technology and factors deriving from the other drivers of change have been responsible for changing every aspect of organisational life. This chain reaction caused even more change that in turn affected the way in which business decisions are made.

Microchip technology has been the author of many technological advances. Toffler (1980:181) reminds us that microchips (“the heart of information technology”) have long been used in calculators, elevators, rocket ships and blenders. Development of the microprocessor enabled explosive growth in high-power, low-cost computing and vastly increased the amount of information that can be processed (Hill 2003:11). The ICAA (1998:11) echoes the significant impact of IT on information processing, saying that the current decade has witnessed exponential advances in telecommunication and information technology and their applications.

The Canadian Institute of Chartered Accountants (CICA) (1996:8) highlights the phenomenon of rapid change as a result of IT, stating that IT and telecommunication technology are important enablers for the rapid evolution of capital markets and expresses the belief that many sophisticated financial arrangements would be impossible without these technologies. The need is increasing for high-quality information that is accessible in real time on a global scale. Meeting this need will have a radical impact on every fabric of our society (Tapscott 1996:34) (see diagram 3.6).

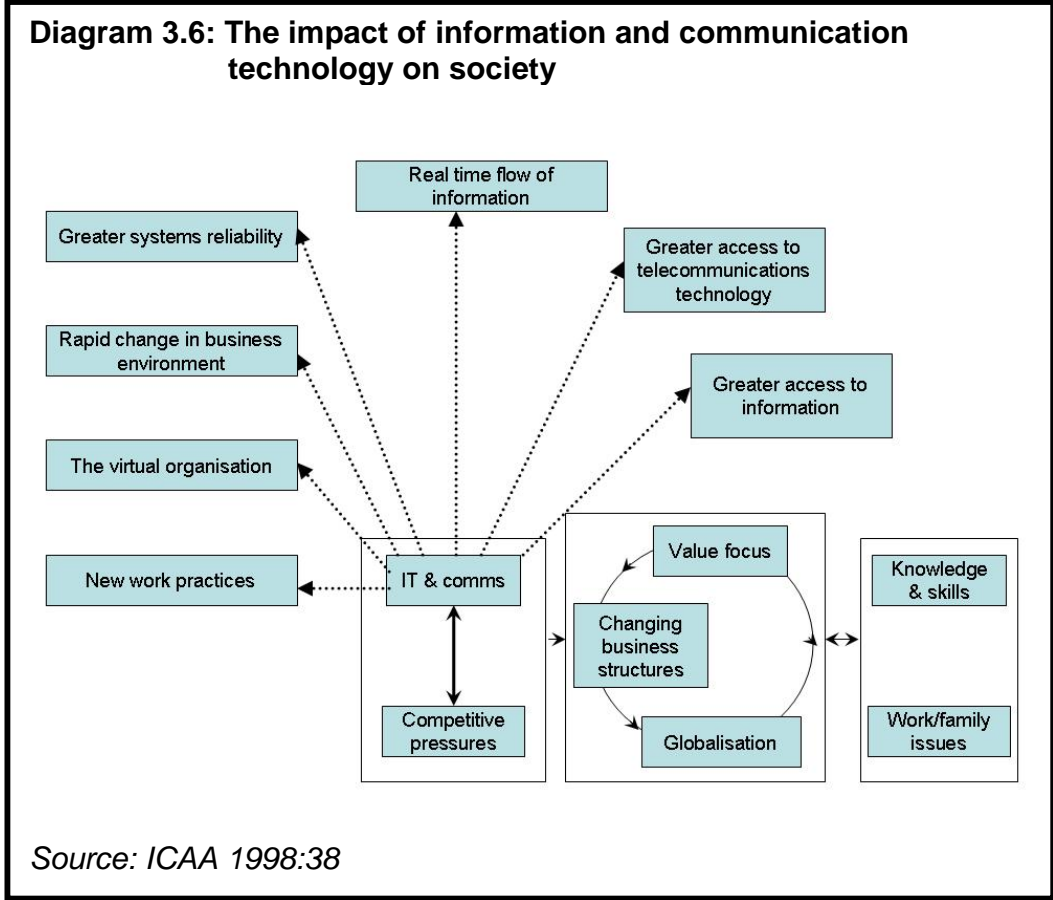


Diagram 3.6 identifies seven different consequences of the ever-increasing competitive pressure in the business environment. The changes brought about by IT affect business structures and social values, which in turn affect and are affected by knowledge, skills and work/family issues. These consequences are discussed below.

*3.3.2.1 Telecommunication*

IT had a considerable impact on telecommunication technology and this in turn has always been a driver of economic progress. The Gutenberg press, postal services, the telegraph and the telephone are all examples of the effect telecommunication has on economic progress (Borgman 2000:1). Further



developments in telecommunication technology will continue to affect numerous areas of society.

*(a) Communication between producer and consumer*

The most recent example of progress in terms of telecommunication technology is the internet, described by the *Encarta World Encyclopaedia* (2005:1) as a network of global computers that are interconnected and have information travelling between them.

The global reach, rapid growth and ability of the internet to transport huge bundles of information at very low cost will have a particularly dramatic impact in the future (Hill 2003: Postscript). In 1999 the internet had 150 million users; by 2003 it had more than 350 million users (Hill 2003:11). In 1993 1,8 million host computers (hosting web pages for local users) were connected to the internet; by July 1999 the number had risen to 56,3 million.

Trites (1999:1) acknowledges the internet's impact on society, stating that the internet is not just a major means of communication, but is changing the very way in which we communicate.

*(b) Telecommunication in transnational corporations*

Increasing internet-based sales in the US includes a growing number of cross-border sales. The internet is a powerful factor in levelling the playing field in terms of location, scale and time zones when it comes to delivering products and services (IFAC 2001:160).

The IFAC (2001:160) predicts that greater global access to telecommunication technology will realign communication between consumers and suppliers around

the world, and believes that the internet will develop into the information backbone of tomorrow's global economy.

*(c) Regulating global corporations*

Referring to the difficulty of regulating global corporations because of the increased use of telecommunication technology, the CICA (1996:9) states that *[w]ith the advent of the virtual organisation, company boundaries are now increasingly porous.*

The World Trade Organisation's (WTO) regulation that prohibits countries from taxing cross-border sales via the internet is a good example of how complex it has become for governments to apply local tax laws to global corporations (Hill 2003:197).

*(d) Computer-related crime*

Advances in communication technology will eventually require new systems to identify and control computer crime. The very aspect that makes the internet capable of connecting everyone to everything also enables hackers to create viruses that can cripple computer systems. Kirkpatrick (2003:74) reports that expenditure on IT security to combat computer-related crime has increased from \$10 billion in 2001 to \$25 billion in 2003, and is expected to reach \$50 billion in 2006.

*(e) Decreased cost of business and increased value to customers*

One positive effect of communication technology is that the decreased cost of doing business no longer requires a physical presence in order to trade (Trites 1999:63). Another positive result is the increased value to customers as a result of increased competition among suppliers (Booth 2000:21).

### *3.3.2.2 Real-time information*

The digitisation of information has resulted in a demand for continuous information. The CICA (1996:iii) believes that users are therefore going to need facilities for the direct interrogation of organisational databases.

### *3.3.2.3 Access to information*

As IT develops, so will confidence in data sources, which will in turn stimulate cost pressure (Corboy 1999:39). Stakeholders will demand more information about all aspects of an enterprise. Shareholders are for example insisting on more detailed and more reliable information. Moreover, the CICA (1996:iii) predicted in 1996 that the demand for information would continue to increase.

### *3.3.2.4 New work practices*

Hayward (2003:9) comments on the impact of IT on current management accounting work practices. She believes that the number of contractors and part-time workers will increase and suggests that more flexible business modules are needed to cope with the demands of a changing workforce. It is Hayward's (2003:10) opinion that organisations will increasingly import foreign workers or use workers from other locations. It is clear that the world of work is changing because organisations are changing the way in which they operate.

### *3.3.2.5. The virtual organisation*

The Institute of Chartered Accountants of Australia (ICAA) (1998:14) suggests that because IT provides greater access to markets, competition is appearing in spheres that were traditionally held by specialists. For example, balancing an organisation's books and compiling financial reports were traditionally performed by accountants but can now be performed by non-accountants using appropriate

software packages. Hayward (2003:10) concurs and mentions that not only are new players entering the market, but competition is appearing within specific industries -- quite often from off-shore locations at a much reduced cost.

We may therefore deduce that IT is not only changing the business environment, but is greatly contributing to the provision of expertise and skills of a virtual nature.

### **3.3.3 The knowledge economy**

In addition to IT and globalisation, the possession of knowledge is also changing the business environment. Knowledge-based industries are experiencing high growth as communities, governments and business seek and value knowledge. Organisations that enjoy a competitive advantage in the market recognise that their position is based on their know-how and knowing how to leverage their skills and knowledge (ICAA 1998:30).

Pistorius (2002:10) also refers to the value of this know-how:

*Organisations operating in the modern economy and particularly in the global environment today realise that their main source of competitive advantage comes from knowledge.*

Hill (2003:214) expands on the knowledge concept by adding that knowledge exists in three spheres, namely the technological, marketing and management know-how spheres. Technological know-how typically enables a company to either build a better product or improve its production processes. Marketing know-how helps companies to improve their position and promote their products, and management know-how enables a company to manage its assets, including its human resources, more effectively. Reich (1991:83) contended in the early

nineties that the true competitive advantage belongs to those equipped with knowledge to identify and solve complex business problems.

All of the aforementioned authors identified the third driver of change, namely the knowledge economy. The implications of this third driver of change on the business environment will now be investigated.

#### *3.3.3.1 An educated workforce*

One of the consequences of a knowledge-based economy is that the workforce needs to be highly educated. This in turn brings about a drastic reduction in the number of unskilled jobs (Bruce 1993:47). Hill (2003:105) mentions that *[t]he availability of a pool of skilled and educated workers seems to be the major determinant of the likely economic success of a country.*

#### *3.3.3.2 Converting information into knowledge*

In a knowledge-based economy, business success depends on the ability to utilise IT to convert information into knowledge in a cost-effective way. The CICA (1996:10) emphasises the requirements of the new order:

*tailoring knowledge from disparate sources into a coherent whole; ... interpreting information to make it useful to non-specialists ... and focusing on the relevance of information.*

#### *3.3.3.3 Alternative suppliers of qualifications*

The emergence of the knowledge economy is placing increased pressure on the traditional suppliers of qualifications (e.g. universities) to respond to rapidly changing business demands (ICAA 1998:24). Evans and Nation (1993:7) believe that *citizens are making demands upon education systems to reform.*

The demand for unbundled and tailored education products is on the increase (ICAA 1998:24). In South Africa this can be seen in the increased number of in-house, industry-specific training courses (SBL database 2005).

#### *3.3.3.4 Performance measures*

Cooper (2000:7) says that another aspect of the knowledge economy is the demand for performance measures (Cooper 2000:7). This author believes that the traditional reliance on post-fact, retrospective performance measures has to make way for more relevant, up-to-date business performance measures. The modern business environment is not designed around the individual, but around the team. This implies that measures have to be developed to measure the performance of both the team and the individual (Cooper 2000:7). One such measuring instrument, the balanced scorecard (Kaplan & Norton 1996:8), attempts to address this particular need.

#### *3.3.3.5 Life-long learning*

The ICAA (1998:22) mentions that career planning and continuous training will become the order of the day in the new business environment: *Job security is now defined by a skill set, not how long you've worked for somebody*. Albrecht and Sack (2000:55) also refers to this concept, saying that critical skills that keep pace with rapid change and that can be acquired through life-long learning would always be relevant.

#### *3.3.3.6 Information overload*

A defining characteristic of the new knowledge economy is information overload as information has increased exponentially compared to previous periods. This information overload will drive the demand for improved methods of sorting and screening information (ICAA 1998:21).

Kirkpatrick (2003:74) demonstrated the consequences of information overload in a survey. He found that 60% of all e-mails employees receive in large corporations such as Merrill Lynch and the Washington Post were unwanted and *a costly waste of time*.

#### *3.3.3.7 Intellectual property*

In the knowledge-driven economy the owners of intellectual property will dominate the global marketplace (ICAA 1998:21). The Microsoft Corporation is a typical example of the importance of owning intellectual property.

### **3.4 CONCLUSION**

It is clear that the business environment is faced with tremendous change. The drivers of change, namely globalisation, information technology and the knowledge economy, affect every fibre of our society and will continue to do so. It has also become evident that current changes are not incremental but radical, morphogenic change.

Management accounting is a system that operates in the changed business environment. It is particularly important to assess the impact these drivers of change have on the management accounting field (chapter 4).