

Chapter 5 Accounting in a changing environment

“Not only is accounting and disclosure increasingly at risk of failing to satisfy its promise to society, but I fear that, unless we begin to take actions to ensure its future utility, accounting and disclosure may become a detriment - a deterrent - to worthwhile business innovation.”
(Wallman, 1995)

5.1 Introduction

The pace and nature of change in the environment has had a profound influence on business organisations and the way in which they are managed. Some authors in Management Theory even suggest that a paradigm shift has taken place in the way in which companies are managed (Scott, 1978; Kanter, 1982). Accounting, as the language of business, and its accounting information system, as a subsystem of the business organisation, have also been affected by these changes. This chapter suggests that as a result of these changes, Accounting is confronted by a number of challenges in adapting to the new demands of its users. However, a review of literature indicates that Accounting has regrettably been very slow in adapting to its changed circumstances. This apparent inability of Accounting to adapt puts its future utility and relevance at risk.

Chapter 5 commences by identifying the impact of change on Accounting and its product, accounting information. It identifies the challenges that confront Accounting and the accounting system in adapting to its environment. The 16 challenges that should be addressed are briefly discussed. Three aspects acting as constraints to change in the traditional accounting model are then identified. The discussion of the impact of the changing environment on Accounting is concluded with a brief summary of the *status quo* of Accounting and the changes required to the discipline and its information system in response to the changes in its task and general environment.

5.2 The impact of a changing environment

The impact of change on the enterprise has formed the basis of a large portion of the recent literature on Management Science, strategy, operational tactics and Organisational Theory. Lapsley and Pettigrew (1994) confirm that change and its implications are a general theme in management and organisational behaviour literature. Many ideas for handling change in a business environment which were discussed in the previous chapter, are practised by companies throughout the world, while those companies who have not done so, find it difficult to survive (Peters & Waterman, 1982; Kanter, 1982). The accounting profession is aware of these changes in the environment and the impact it has on businesses. The American Institute of Certified Public Accountants (1994a) states, for example, that increased competition and rapid advances in technology are resulting in dramatic changes. In an effort to survive and compete, companies are rapidly changing everything: The way they are organised and managed, the way they do work and develop new products, the way they manage risks, and their relationships with other organisations. Successful companies are those that focus on the customer, eliminate low value activity, decentralise decision making, reduce lead times and form new alliances with suppliers, customers and competitors. Although accountants on the whole are aware of change in the business environment, the accounting discipline and information systems have not kept abreast of these changes. In the United States, a SEC Commissioner (FASB, 1996) confirmed that reporting is not keeping pace with the accelerating changes in the business world and it is at risk of diminishing its utility to a serious degree.

An insight into the ways and means of bringing accounting systems up to date is only possible if one understands why they are poorly adapted to the needs of today's competitive environment (Turney & Anderson, 1989). The accounting system was originally developed for trading enterprises and was extended during the Industrial Revolution to accommodate manufacturing enterprises (Association for Investment Management and Research, AIMR, 1993, p.27). Because the accounting system was not designed for service- and informationbased enterprises, which are currently the most rapid growing section of industry, it cannot report effectively on them

(FASB, 1996). Kaplan (1983) notes that the traditional accounting model is based on the mass production of a mature product that has known characteristics and on the assumption of stable technology. Such assumptions are clearly no longer applicable in an environment characterised by customised products, innovation, continuous improvement, rapid introduction of new products and services, short product life and an exponential growth in technology. As a result of its historical development as well as the education and training of accountants, the accounting information system and accountants are poorly equipped to deal with the new demands of their environment (Beaver, 1992). Furthermore, the information system is poorly positioned to deal with the changing needs of its users, as its structure tends to make it inflexible. The latter stems from a historical approach in which Accounting was viewed as a closed system with limited and structured interaction with its environment.

Schonberger (1990) noted that in leading companies Accounting generally lags behind the developments in quality, design, purchasing and changing roles of people. Johnson and Kaplan (1991) contend that the *intellectual basis* of accounting information systems in most of the organisations has been made obsolete by contemporary trends in global competition, by a revolution in the organisation, manufacturing technology and by deregulation. Despite these criticisms, the issue of change and its implications for Accounting is still addressed relatively infrequently in mainstream accounting literature (Lapsley & Pettigrew, 1994).

Because of its inability to respond to change, Accounting has been severely criticised in recent years. David Allen (1994, p.1) for example says the following about the financial statements:

“A balance sheet endorsed by a reputable firm of auditors provides no indication of the future viability of the enterprise. The traditional accounting model, with its focus on realised gains, tangible assets and capital maintenance is not only inappropriate at a strategic level, but dangerously misleading.”

Some years before this Peters (1991) contended that the traditional measurements were misleading, and that the accounting reports reveal only some aspects of economic reality. Hope and Hope (1995) are even more harsh in their condemnation

of the accounting information system. They suggest that accounting systems not only lack relevance but that it also provide managers with misleading signals and thus invite the prospect of wrong decisions, which destroy jobs and stifle innovation. Wrong decisions by management affect the position of the stakeholders of the company as well as society through lost opportunities, lost jobs, inefficient use of scarce resources, and the poor allocation of wealth. The dissemination of misleading information on the performance, position and competitiveness of organisations also results in uninformed and inappropriate decisions being made by external stakeholders, which eventually results in the allocation of scarce resources such as capital, not being optimised.

Accounting has also been criticised in publications for failing to reflect reality by not providing information that is relevant, timely and useful for decision making; and for being inflexible and unable to adapt (see Hakanson, 1978; Lee, 1987; Johnson, 1992; Lapsley & Pettigrew, 1994; Turney & Anderson, 1989). This continuing inability of Accounting to keep pace with the changes in the business world will ultimately affect its utility and relevance. According to Lee (1995) the inability to accommodate change is the result of traditional modes of thought passed on from one generation of accountants to the next.

The FASB has recognised that Accounting is in danger of becoming obsolete. In the *Status Report* (FASB, 1996) it has identified the enhancement of the financial reporting model as a tool for decision making in a rapidly changing economic and technological environment as one of its strategic foci for the 21st century. In addressing financial reporting (the product of Accounting) the FASB is only considering part of the problem, as the general problem arises from the inability of accountants, the discipline as a whole and its information system to adapt to the changing demands of the users of business information. Criticisms of Accounting should be viewed as an incentive for the discipline to grow, become more client centred and strive for service excellence. This requires a continual process of renewal, improvement and feedback. To provide momentum for this process, the criticisms need to be viewed as opportunities for continuous improvement and challenges confronting the study field.

When addressing this problem, the changing perspectives in the environment of Accounting should be considered. In the Management Theory, for example, there has been a paradigm shift in that the organisation is no longer viewed as a closed system using a rational approach with clearly identifiable goals and aims, but as an open system in terms of a social approach (Scott, 1978). The accounting information system is a subsystem of the organisation and its underlying perspectives should be closely aligned with those of the organisation. However, Accounting has remained essentially an internally focused, closed system with limited interaction with its environment which follows a rational, mechanical approach. In order to align Accounting with the perspectives adopted in the business organisation, it should be viewed as an open system which

- interacts freely with its environment;
- repositions itself continuously through constant feedback;
- focuses on the environment, identifying and anticipating and adapting to change;
- is flexible enough to respond to the changing demands of its users; and
- is able to initiate, measure, and support change to ensure the success of the business in an increasingly competitive world.

As a possible approach to increasing the flexibility of Accounting, Wallman (1995) suggests firstly that *analytical systems* for thinking about and anticipating changes in the business world should be developed by accountants and secondly, that *mechanisms and structures* should be developed which will enable Accounting and accountants to respond appropriately to change. Such changes in perspective may result in far more radical changes than those envisaged in the literature (see AIMR, 1993; Johnson, 1992).

Criticisms of Accounting are summarised in figure 5.1, but it does not purport to be a comprehensive list.

Figure 5.1 : Criticisms levelled at Accounting

Criticism	Author
Inflexible	Lapsley and Pettigrew Turney and Anderson

Reductionistic	University of Haskoning
Misleading information	Allen Hope and Hope Peters
Irrelevant, information	FASB
Stifling to innovation	Lee Wallman
Inappropriate assumptions	Kaplan
Slow in adapting to changes	Schonberger Peters Johnson and Kaplan
Inability of accountants to change	Allen Lee

Source: Own observation.

Some of these required changes are addressed as challenges confronting Accounting in the next section. At the end of each section, the challenge under discussion is summarised and highlighted.

Although the different challenges are discussed individually, they should be viewed from a holistic perspective, because the power of the potential improvement lies in the cohesion of the changes rather than in the individual items. A segmentalistic logic (Peters & Waterman, 1982) to improvements will result in an *ad hoc* approach. In a holistic approach the complexity, interdependence and relationships within Accounting is recognised and the impact of improvement on the discipline as a whole considered.

5.3 The challenges confronting Accounting

Accountants, managers and other users of accounting information cannot afford to ignore the significant changes that have taken place in the business organisation, business environment and broader society. Puxty (1993) stresses that Accounting is not merely a collection of techniques, but that it has a significant impact on society at large. So too, society impacts on Accounting and accountants. Accountants are seen as the gatekeepers of financial markets, who are responsible for the quality and integrity of information so that

- capital markets are efficient;
- the cost of capital is low;
- the standard of living is high;
- the investment risk is low; and
- resources are allocated efficiently (Wallman, 1995).

Another role of Accounting and accountants is to identify inequities and ensure the fair and equitable distribution of resources (Gouws, 1996). Accounting restores equity by ensuring a correct and accurate measurement and reporting of performance and the corresponding rewards (Belkaoui, 1980, p.90). A failure to respond to such expectations may cause the accounting discipline to lose its credibility, usefulness and relevance, and the accounting profession to lose its standing in society.

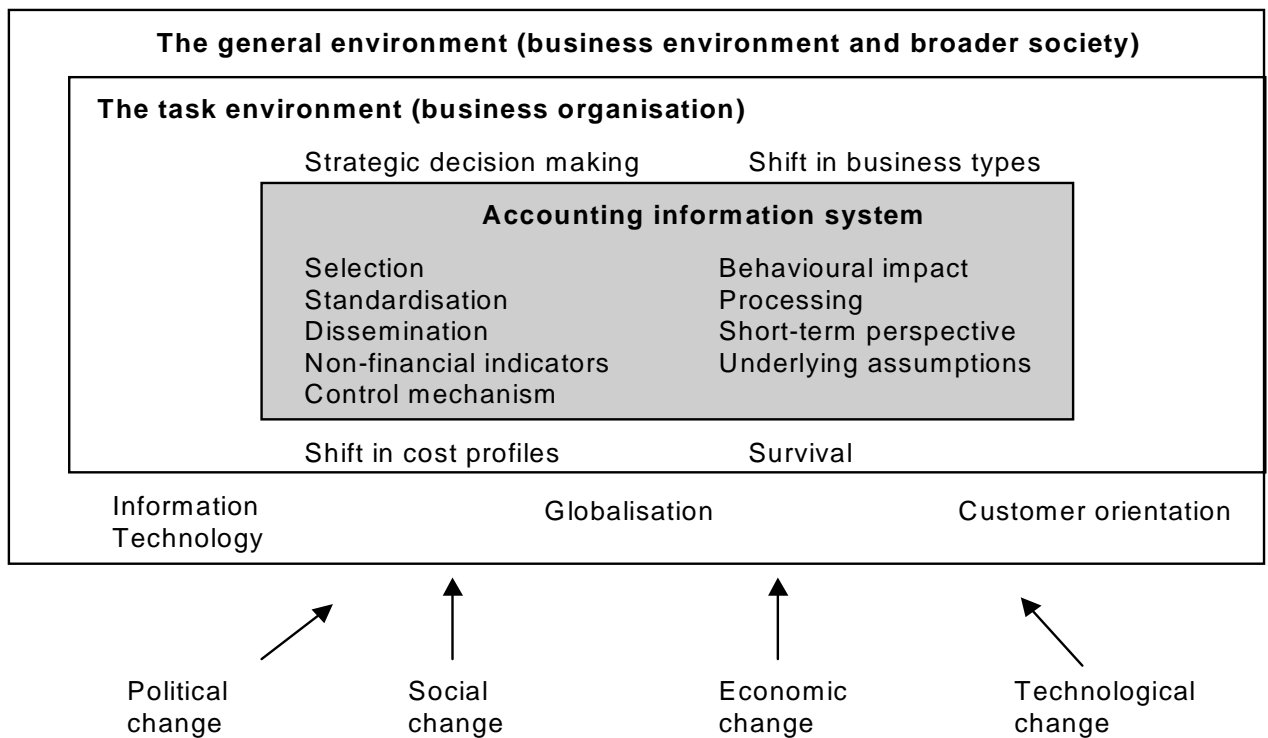
The changing environment has confronted Accounting with a number of challenges that should be recognised, accepted and addressed promptly in order to reverse the already declining trend in its usefulness and relevance. These challenges may also be used as

- criteria to assess the contribution made by research, improvements or innovations in Accounting;
- a means of focusing attention on those areas of Accounting that require change; and
- a point of departure for studying the interrelationship between Accounting and its environment.

As was mentioned in chapter 3, society has been subjected to political, social, economic and technological change. These changes resulted in globalisation, the rise of the informed and selective customers and the development of information technology. This represents the first level of challenges. Within the business organisation, change is apparent in the shift in business types and cost profiles as well as in the increase in strategic decision making and the greater emphasis on

survival. These concern the **second level of challenges** that were discussed in chapter 4. In the accounting information system, areas requiring change include the selection of data and the processing, dissemination and standardisation of information, its use as a control mechanism, the short-term perspective created by accounting information, the behavioural impact of such information, and the assumptions underlying the discipline. These represent the third level of challenges. This systems approach which is used as the basis for identifying these challenges is illustrated in figure 5.2.

Figure 5.2: Challenges confronting Accounting



Source: Own interpretation.

These categories of challenges emanate from the author's interpretation of the literature. They do not purport to be exhaustive or mutually exclusive and may differ from the perspectives of other authors.

5.3.1 Globalisation

In recent decades there has been an astonishing disappearance of geographical barriers, both physical and psychological. The concomitant globalisation of markets will probably continue until almost all barriers have disappeared (AIMR, 1993, p.22). Companies are becoming increasingly multinational, and so have the product markets. Even financial markets have not escaped the trend. As a result, companies can raise capital anywhere, sell to markets anywhere and base their operations anywhere.

With globalisation has come an escalation of competition among businesses, combined with increased deregulation. To survive in this highly competitive environment, organisations are altering the way in which they conduct their business. They have to become customer oriented and lean, efficient and innovative. Globalisation does not only affect an organisation and its management, but should also influence the accounting system. The latter should support the raising of capital anywhere in the world, obtaining of listings on foreign exchanges, co-ordination of world-wide operations and the assessment of multinational performances as well as the measurement of productivity, continuous innovation and responsiveness to change.

Acting as constraints to the potentially global role of Accounting are the cultures, languages, practices and different interpretations of theory, laws, ethics and aims of the businesses in different countries. Notwithstanding these constraints, the AIMR (1993) suggests that harmonised accounting methods should be adopted. In this respect considerable work has already been done by the IASC and EEC. The harmonisation of accounting standards should result in the world-wide acceptance of standards which should be followed by the acceptance of a similar set of auditing standards. Accounting has, however, not been developed sufficiently to support the complex areas of reporting and decision making that are encountered in multinational enterprises. The management of these enterprises should consider aspects such as legislation, tax regimes, labour practices, currency fluctuations, investment incentives, changes in consumer patterns, political stability and trade restrictions from a global perspective.

The challenge confronting Accounting is that it should become a universally understandable language with the aim of even-handed distribution of information to enable global resources to be allocated efficiently. It should be able to report on the performance of and support decision making within complex multinational business groups in which aspects such as the location of operations, position in markets, taxation, listing on stock exchanges and volatility of currencies are of prime importance.

5.3.2 A customer - oriented perspective

One of the keys to success in the new business environment is recognition of the dominant role of the customer. A deficiency of the traditional accounting information system is that it is not customer oriented with regard to a number of aspects. Firstly, accounting systems provide almost no information about customers other than revenue data. Secondly, they focus on internal issues rather than on the needs of customers for products or services. Thirdly, the accounting system itself is not sufficiently customer focused.

Hope and Hope (1995) present evidence that huge amounts of work in every type of organisation provide no added value to the customer. Ernst & Young (1995) found that only about 20% of administrative processes add value for the customer. Yet the accounting system is not able to highlight such waste, and instead disguises it. It raises the ethical question of whether the customer should be expected to pay for such inefficiencies in cases where the price of the product or service is based on cost. Accounting information should support the business in becoming and remaining customer oriented by supplying more information regarding relationships with customers, exposure of waste and costs that fail to add value for customers.

Accountants should also align their product, information, in a similar way that successful businesses align their products and services to the needs of their customers (AICPA, 1994a). If Accounting becomes customer driven its output, namely business information, will be focused on meeting the changing needs of its users. The selection of data and its processing will therefore be determined by the required output.

The challenge confronting accountants and Accounting is to become more customer oriented, shifting the focus of attention towards the needs of customers for products, services and information.

5.3.3 Information Technology

Computing and related technologies have had, and will continue to have, a profound impact on the way in which information systems gather, process and distribute information within organisations. These technologies also affect the non-information systems that support business functions, such as design, manufacturing and distribution. Kaplan (1983) suggests that while Accounting cannot play the primary role in initiating or implementing technological innovations and organisational change, the accounting system should provide incentives for improving manufacturing performance and measurements to evaluate progress towards this goal. For flexible manufacturing systems, Jaikumar (1986) proposes indicators of performance such as number of unattended operations, number of machine tools, utilisation rate of shifts and parts produced by the system. This role which is envisaged for Accounting is not limited to manufacturing, but applies to all functions in the organisation where technology is in use.

The technologies also affect the accounting information system itself. Unfortunately, new technology has been used in the latter instance merely to speed up old methods, in other word to crunch conventional numbers faster (Drucker, 1988). Accounting software programs are often based on the dualistic convention of debits and credits, a method originally developed for manual recordkeeping. The dual accounting convention could be replaced with a storage and retrieval system more suited to the computer environment. Ward (1992) suggests that the additional benefits of selectivity, analysis, prediction, accuracy and retrieval on demand should be investigated. The Institute of Chartered Accountants of Scotland (1988) notes that the full corporate report could be made available to users on an electronic distribution network at very little cost. Technology can also be used to create greater flexibility in the accounting information system, thus making it better suited to the changing demands for information.

The challenge confronting software developers, accounting practitioners and accounting researchers is to develop information systems which utilise fully the potential of new technology to bring about an efficient and accurate recording, processing and reporting system on the performance of organisations. The accounting system should utilise technology for more purposes than merely the processing of large volumes of conventional data. The appropriate use of technology should result in a major shift of emphasis from the gathering and processing of information to the interpretation, utilisation and dissemination thereof.

5.3.4 A shift in business types

A shift is taking place in the nature of business as the second wave, industrialisation, is being replaced by the third wave, information technology (Toffler, 1994). The number of mercantile and manufacturing firms is declining and information and service-based firms are escalating. Knowledge has changed from being a minor to a major factor of production.

The traditional accounting model was originally developed to report on mercantile enterprises. Later it was modified through cost accounting to accommodate manufacturing enterprises. This modification was however less than perfect and the result was that additional information which, was required in decision making, was generated outside the conventional accounting system (AIMR, 1993, p.27). The traditional accounting model is even more unsuitable for reporting on information and service-based companies. The FASB (1996) recognises that a failure of the accounting model is that it does not provide enough insight into information and service-based enterprises. The major factors of production of these companies, namely human resources, knowledge, information and intangible assets, are not recognised or are written off immediately in the accounting system. Even in trading and manufacturing companies intangible assets are becoming important sources of competitive advantage. The very investments which provide companies with competitive advantage in conditions of rapid change such as research, development, marketing, training and design are the ones written off in the accounting model as intangible (Allen, 1994).

The challenge confronting accounting researchers is to develop a system for the gathering and processing of information that is more suited to reporting on information age companies and those factors of production that will provide them with competitive advantage. Such a system should still accommodate the need for information with which to compare investment opportunities of disparate nature (AIMR 1993).

5.3.5 A shift in cost profiles

Shifts in the nature of businesses, as well as new business approaches, have caused major changes in the cost structures of businesses, too. The amounts invested in inventory and labour have declined steadily with the introduction of business innovations such as JIT and automation. Shifts from manufacturing to service and information-based companies and shorter lead times of products have contributed further to the decline in the importance of inventory.

The labour cost of many manufacturing concerns has also dropped steadily. Schonberger (1990) notes that direct labour accounts for only 15% of product cost in manufacturing, down from over 50% only 100 years ago. The nature of the labour has changed from direct costs to indirect costs, and the profile of the labour force has shifted from blue collar to white collar employees.

Overheads has increased substantially and has moved from variable costs to fixed costs. One of the factors contributing to the increase in fixed overheads is the rising investment in sophisticated technology to increase productivity and to facilitate small runs of customised products. Other increases in overhead cost result from the increased attention being paid to planning, training and design and innovation of products and services. Schonberger (1990) notes that overhead costs are often three, four even eight times greater than direct labour costs. Nonetheless, several companies continue to allocate overheads on the basis of direct labour hours and keep meticulous records of dwindling inventory.

A few innovations, such as cost drivers, activity-based costing and target costing, have been introduced, but further research is required in this area of Accounting (Johnson, 1992, p.141). Accountants should assist in introducing and refining new cost allocation techniques in businesses so as to recognise the shifts in the cost structures of information age companies. Perspectives on the nature of costs are changing, too. Costs are now viewed as part of the value chain and should be incurred to contribute towards the creation of value for the enterprise. Costs are furthermore viewed in context instead of in isolation. When costs are incurred which do not create value, they by implication contribute towards the destruction of value. This new perspective on costs helps to highlight and eliminate costs that add no value to the organisation.

The challenge confronting accountants and other internal users of accounting information is to recognise and accommodate the changes that have been taken place in the cost structures of organisations and to develop innovative and cost-effective means of recording, allocating and reporting on such costs in organisations.

5.3.6 A strategic decision-making focus

In highly competitive global markets, managers are obliged to devote an increasing proportion of their time to strategic decision making, and must of necessity leave more and more operating and administrative decisions to employees (Ansoff, 1988). The managerial focus has shifted from mainly inward to outward focusing decisions, or stated differently, from a closed to an open system approach. In the past, accounting recognised and measured information that was mainly related to operating, and to a lesser extent, administrative decisions. This has been because the accounting information system has remained essentially a closed system which focused on the internal affairs of a business organisation. The demand is changing, however, towards more information that will assist in strategic decision making.

Although some work has been done in the field of strategic decision making with the development of the field of Strategic Management Accounting, the current accounting system is still not geared to support strategic decision making (Allen, 1994, p.11). Strategic Management Accounting has been developed in response to

the pressure for change from managers in the private sector. It provides and analyses financial information on a firm's products, markets, and competitor's costs and cost structures and monitors of the enterprise's strategies and those of its competitors in these markets over a number of periods (Bromwich, 1990). A distinctive aspect of this approach to management accounting is the changing role of the accountant. Here the accountant is depicted as fulfilling a role which is not restricted to only *internal* accounting, but in which he/she takes note of, and measures, the impact of significant external events and reports on these to management within the organisation (Lapsley & Pettigrew, 1994).

Information on strategies themselves and the achievement of these strategies is also useful to other stakeholders of the company. The AIMR (1993, p.85) comments that if financial analysts are to make sound judgements and draw rational conclusions, they must judge the performance of individual business enterprises, and performance appraisal is largely a matter of evaluating how well the management of an enterprise has succeeded in achieving its goals. The type of information, with predictive value, provided by management should describe among others their strategies, plans and expectations. Information that has feedback value should be used to report on the results in a manner that is consistent with the strategies and goals of the organisation and the management. Hope and Hope (1995) note that there is increasing recognition that financial performance can be improved by paying closer attention to measures which relate to strategic targets.

The challenge confronting accounting researchers, accountants and other users of accounting information is to develop an information system that will focus on the external environment and competitors and will have predictive value. Such a system should support the organisation's strategy, assist in the choice of new strategies and report to both internal and external users on their success.

5.3.7 Survival as a key objective

In the past, when the business environment was stable and fairly predictable, the main aim of business was to maximise profits and more recently, to create shareholders' wealth. Although it is unlikely that these entrenched beliefs will be

displaced, the focus has of necessity shifted to survival as one of the aims of the organisation. This is understandable in view of the fact that the unstable environment is increasingly threatening the survival of business organisations.

The traditional accounting model emphasises the maximisation of profit by supplying an income statement in which profitability is measured on a periodic basis. In order to assess shareholder wealth, the value-added statement together with other sophisticated indicators such as economic value added and shareholders value added have been developed (Stern, 1993 and 1996). In contrast, information on survival remains fairly rudimentary, often limited to a few simple solvency and liquidity ratios (Heath, 1978).

Management originally identified the shareholder as the main user to whom information is communicated and whom will be most interested in the survival capacity to the organisation. The extension of the user base to include other users groups, together with an increased awareness of the social responsibility, have now broadened the responsibility of management. The impact of profitability, wealth and survival on other stakeholders now also has to be considered. The responsibility of management for the survival of the organisation thus extends not only to shareholders but to other stakeholders as well.

One of the underlying assumptions of the accounting model is that of a going concern, that is, the assumption that an enterprise will continue operating for the foreseeable future. It is apparent that this assumption is increasingly threatened by an unstable environment. Senge (1990, p.17) finds that few large corporations live even half as long as a human being and supports this statement by the fact that by 1983, one third of the firms listed in the *Fortune 500* of 1970 had vanished. Flexibility is a tool which can be used by management to improve the survival potential of their companies. Flexible companies are more likely to survive in unstable periods than inflexible companies. Volberda (1998) considers flexibility as an essential organisational property for survival in unstable conditions.

The challenge confronting accountants, the auditing profession and other users of accounting information is to identify those aspects that are crucial to the survival of

an organisation in the information age and to develop new and reliable indicators that can be used to assess the survival potential of organisations. The indicators should include qualitative measures of quality, management, employees, research and development, innovation, new markets entered and new products introduced.

5.3.8 Non-financial indicators

Belkaoui (1981, p.222) observed that conventional accounting is characterised primarily by (1) the use of historical cost as the attribute of the elements of financial statements, (2) the assumption of a stable monetary unit, (3) the matching principle and (4) the realisation principle. In particular, the practice of measuring everything in terms of monetary units has tended to blind the accountant to the potential of non-financial measures. These include product quality, customer satisfaction, order lead time, factory flexibility, the time it takes to launch a new product and the accumulation of skills by the labour force (Peters, 1991, p.589). These factors are gaining in importance as the drivers of corporate success. Morgan and Willmott (1993) remark on the tendency of accountants to render everything in monetary terms, irrespective of whether the exercise makes sense or not, stating that although the end product may make things more intelligible to accountants, they make them generally less intelligible to everyone else.

The demand for non-financial information on businesses is increasing as users are recognising that it is more important to measure and report on a variety of non-financial indicators, than attempt to measure monthly or quarterly profits (Johnson & Kaplan, 1991). Non-financial indicators can be measured in time, number of shifts, units, weights, number of follow up actions, telephone calls, contact hours and of course, qualitative descriptions. The Chartered Institute of Management Accountants (1997) acknowledges that Accounting should not be limited to monetary values only.

Although some research has been done on the development of non-financial indicators (see Kaplan & Norton, 1993; Turney & Anderson, 1989), these measures have not yet permeated accounting practice. The introduction of information on the flexibility of businesses will require the increasing development and introduction of a greater number of non-financial indicators.

The challenge confronting accountants and other users of accounting information in organisations is to develop, utilise and report on a variety of non-financial operating indicators. According to Castelano, Roehm and Hughes (1995) this need to move towards a greater use of operational versus financial measures of performance, will require a paradigm shift in Accounting.

5.3.9 Selection of data

Accountants recognise only those *transactions* and *events* that comply with the definition of elements and recognition criteria provided in the conceptual framework on financial reporting. In effect, the use of the conventional accounting model results in certain data being selected for processing and other data, which fail to meet its narrow criteria, being discarded. Accountants therefore act as gatekeepers as to the data and ultimately information, that should reach the user.

The accounting education process has conditioned accountants to concentrate on the accuracy of data that is processed rather than worry about the data that is lost in the screening process. Wheatley (1994, p.109) suggests that the gatekeeping criteria should be revised and that the gates should be opened to more information in more places. Furthermore, information that is ambiguous should be identified and retained. Gatekeeping was a necessary function in the past, when the inputs made to a manual recording system had to be limited, but now that technology allows the processing of large amounts of data both quickly and accurately, the screening function should be minimised. Gatekeeping was also used as a means of improving the compatibility and consistency of the information. Companies recognised data only once predetermined criteria were met. Although comparability and to a lesser extent consistency are suitable characteristics of information in a stable environment, they are not suited to a volatile environment. In the latter circumstances, comparability is often achieved at the cost of economic reality.

Many examples of the adverse affect of the extensive screening process in accounting exist, such as the non-recognition of human resources and future contracts on the balance sheet and the non-recognition of orders until delivery has

taken place. The most important factors of success of businesses in a changing environment, that is employees, knowledge, innovation and flexibility, are often precisely the elements that are not recognised or are written off immediately as they fail the narrowly defined selection criteria of Accounting.

The challenge confronting accountants, educators and researchers is to reassess the criteria for the selection of data in Accounting. Useful information may be lost through restrictive and dated gatekeeping criteria. Advances in technology can facilitate the extension of the type of data selected for processing. The selection of data should be determined by the output requirements of the users of information, rather than by narrow and dated selection criteria.

5.3.10 Information processing

“Processing” refers to a continuous process and the term is used in a broad context to include the decoding, analysis and refinement of information as well as the identification of relationships within it. Data that meet the restrictive selection criteria of the traditional accounting model are often processed in such a way that its decision-useful qualities are destroyed. The volatile, exceptional, conflicting, small variance, unusual fluctuation and unexpected are often processed, analysed and explained away so that only the large numbers, important trends, significant variances, expected fluctuations and comparable amounts remain. This creates an illusion of objectivity, accuracy and usefulness. Wheatley (1994, p.108) contends that we’ve been so engaged in rounding things off, smoothing things over and keeping the lid on, that our organisations have been dying from a lack of the information on which they can feed, in other words, information that is different, disconfirming and filled with enough instability to knock new life into the system. Wheatley’s view is supported by discoveries in chaos theory, which suggest that even small, seemingly unimportant and slight variances may influence future direction of a system – the so-called “butterfly effect” (Gleick, 1987). Yet accountants are still trained to diligently remove the “white noise” (the small, apparently marginal deviations and distortions) from our financial information and they remain uncomfortable with volatility and uncertainty.

The challenge confronting accounting practitioners, educators and researchers is to re-evaluate the accounting concepts, qualitative characteristics and practices such as materiality, comparability, income smoothing, aggregation, matching, prudence and consistency, because the careless application of these concepts, characteristics and practices may destroy useful and potentially direction-giving information.

5.3.11 Dissemination of information

This concerns the flows and distribution of information both within and outside the organisation. In an information-based organisation, knowledge tends to accumulate at the bottom, in the minds of the specialised and highly trained personnel who do the work and direct themselves (Drucker, 1988). The “new” management style therefore adopts a bottom-up approach to the dissemination of information, contrast to the top-down approach that characterised the “old” management style. In the old style, information was gathered for management (top) who distributed it selectively to employees (bottom) on a need-to-know basis in order to command and control employees’ actions. The new style requires that information be generated for and used by specialist employees working together in crossfunctional teams (bottom) before being passed on, often on a selective basis, to management (top).

Consequently, the accounting department within an organisation will have to become more decentralised. Accounting staff should become members of the self-focusing, crossfunctional and independent teams within the organisation. They should gather, process and distribute information to the teams, allowing these specialists to appraise and amend their own processes. Timeous information should become freely available to all who require it for decision making. Accountants should increasingly become team players with excellent communication and interpersonal skills who are able to produce new innovative measures of performance when required to do so by the users. Accountants need to become players instead of remaining scorekeepers. The education of accountants will have to be reviewed to address these new skills required of accountants (Gouws & Bosua, 1997).

The challenge confronting accountants and educators is to adapt to the new demands of the information age organisation by gathering, processing and disseminating information so that decision-useful information can be supplied

timeously to all interested users. This implies that the accounting function in organisations should become increasingly decentralised and flexible. It requires further that accountants become proficient in a number of skills, such as communication, interpersonal relationships, problem-solving, innovative and creative thinking as well as in teamwork.

5.3.12 Behavioural impact

The traditional accounting model developed in a pragmatic fashion, by addressing and solving problems as they were encountered. The collection of principles, concepts and characteristics used in solving these problems have only recently been codified into a conceptual framework on financial reporting (SAICA, 1990). Unfortunately, these principles, concepts and characteristics were adopted without due consideration to their behavioural impact, both within and outside the organisation.

According to Johnson (1992, p.115) the most urgent need in business is to eliminate information which encourages people to manipulate processes in order to achieve results. Accounting concepts such as prudence and matching often lend themselves to such manipulation. The pressure to produce output for its own sake emanates to some extent from the matching concept as only costs attributed to sold products are deducted from revenue. An incentive may be created to produce inventory although it is not cost effective and contrary to the JIT philosophy as the costs are deferred to future periods. The prudence concept provides ample scope for creative accounting for it is based on the belief that it is better to reveal less rather than more until the uncertainty has been resolved. Lee (1987) is of the opinion that much of the creative accounting that has taken place consistently over the years has been justified in the name of the prudence concept.

Accounting standards and principles may also influence behaviour in a manner not always anticipated. In the United States, for example, the issue of an accounting statement (SFAS 106) requiring a provision to be created for post-retirement benefit costs in the period during which the services are rendered to the company, has resulted in the curtailment of these benefits by several companies (Pollitt, 1998,

p.45). Such curtailments resulting for the new accounting standards may have far-reaching social implications.

Hopwood (1985, p.18) suggests that much more effort should be devoted to finding out how Accounting affects user behaviour. The interest of society is not served if the accounting system encourages dysfunctional behaviour, such as the manipulation of results or the curtailment of benefits to employees.

The challenge confronting accounting researchers and standard setters is to consider the behavioural impact of accounting principles, concepts and characteristics in the context of a dynamic environment and a changing management approach. In such an assessment the behaviour that these concepts and characteristics may cause, both within and outside the organisation, should receive attention.

5.3.13 Short-term perspective University of Pretoria.etd

One of the dysfunctional behaviours that is supported by the accounting system is a short-term perspective in managerial decision making. This phenomenon occurs when a manager's decision and vision are dominated by the price of the firm's shares on the stock market (Lapsley & Pettigrew, 1994). Contrary to research findings, they often believe that a growing bottom line can favourably influence stock market prices. They may therefore resort to tactics that "create" short-term profits at the cost of the long-term well-being of the organisation.

Kaplan (1983) suggests that managers are especially likely to adopt a short-term perspective during a downturn in the economy. They attempt to minimise the negative impact on reported earnings by reducing capital investment and intangible investment in areas such as product development, human resources, research, advertising, promotion, maintenance, training, quality control and customer services. The immediate effect is to boost reported profits, but it is done at the expense of the company's long-term competitive position (Johnson & Kaplan, 1991). Allen (1994) goes so far as to suggest that directors spend company money on activities that will promote the short-term attractiveness of their company's shares to brokers and journalists.

Although Accounting is not the sole cause of the short-term orientation of management and other stakeholders, it does encourage and reinforce short-term assessments. Castelano *et al.* (1995) argue that the meeting of numerical targets encourages short-term thinking, as do tactics aimed at making the numbers. Peters (1991, p.583) contends that Accounting supports a short-term perspective by excluding sources of long-term revenue enhancement such as quality, service and flexibility from the measuring system. The periodic breaking of the business cycle in order to report the organisation's results also encourages a short-term view, as users place excessive reliance on profit figures that merely reflect short-term profitability and that cannot guarantee long-term profitability or survival.

The challenge confronting educators and accountants is to encourage and support a longer term view for the assessment of the performance of an organisation by both

internal and external users. Consequently, accounting information should focus more on the factors that create long-term value, including non-financial measures, that assess performance in key business processes (AICPA, 1994a).

5.3.14 Accounting as a control mechanism

Accounting information has not been used only to assist in decision making and to evaluate the performance of an organisation, but also to control the activities within the organisation. In his book, "Relevance Regained", Johnson (1992) argues that relevance was not lost by inappropriate accounting information, but rather by its inappropriate use to control business operations. Financial targets, budgets, forecasts and planning models became the focus of management to the detriment of areas such as customer relations, innovation, design and the use of technology. The myopia created by control based on financial numbers often resulted in lucrative opportunities being lost in favour of "meeting the budget". Resistance is however developing to the use of Accounting as a control mechanism in a command–control management style. Drucker (1988) says that the centre of gravity in employment is fast moving from manual and clerical workers to knowledge workers, who resist the command–control model. Consequently the role of Accounting as a control mechanism is likely to diminish.

The incorrect use of accounting information for control purposes encourages disfunctional behaviour on the part of the people in organisations. Deming (in Castelano *et al.*, 1995) recognises the need for financial data for purposes of planning, score keeping and resource allocation, but warns against its use for ranking, control and performance evaluation. However, until managers of businesses see Accounting as a tool to improve business performance rather than a means of exercising control, they will not acknowledge the benefits of developing better information systems (Hope & Hope, 1995).

The challenge confronting accounting researchers, accountants and other users of accounting information is to cease using it for control purposes, and to emphasise and develop its role as a supporter of decisions, scorekeeper of results and measurer of change.

5.3.15 The role of standardisation

In an attempt to make reporting more comparable and to reduce the number of accounting practices, standard setters worldwide have standardised accounting practices by issuing statements to regulate the reporting of business information. Business reporting is further entrenched by legislation such as companies and auditors acts. The combination of legislation and standards have created a comfort zone that makes many accountants slow to accept change and even encourage opposition to change. Lee (1987) attributes the lack of innovation in financial reporting practice to standardisation. He suggests that standardisation –

- creates a compliance complex,
- sterilises the accounting education process, and
- preserves the *status quo*.

The application of standards has become a recipe used by accountants that is seldom questioned. This compliance complex has resulted in the increasing demise of professional judgement. Lee (1987) holds that it would be beneficial to all concerned if the reporting process could restore to its former level the old fashioned virtue of professional judgement, not as an exercise in compliance with book rules, but rather with the aim of promoting the truth about business activities in corporate financial reports.

Standardisation has also inhibited the accounting education process, creating accountants who are unequipped and unwilling to experiment and innovate. Allen (1994) maintains that it has to be recognised as a general rule that accountants find it more difficult than people from other disciplines to come to terms with new trends. On a more positive note, Filmer (1992) states that there seems to be a gathering of momentum for change in Accounting but consensus has not been reached on how best to achieve it.

The challenge confronting accounting educators, standard setters and accountants is to break through the compliance mind set caused by standardisation, regulation and legislation. They should become more innovative; willing to experiment and to produce information that is exceptional, conflicting and unexpected. They should draft reports that reflect economic reality with its concomitant volatility, and should be more willing to exercise their professional judgement.

5.3.16 Underlying assumptions of traditional Accounting

The original accounting system flourished in an era dominated by a Newtonian view of the universe. In terms of this perspective on reality, man manages by separating the whole into parts, believes that influence occurs as a direct result of force exerted by one person on another, engages in complex planning for a world that is expected to be predictable, and searches continually for better methods of objectively perceiving the world (Wheatley, 1994, p.6). In essence, the universe is viewed as a large machine. Reality exists “out there” in the external world and I, “in here”, can objectively observe, measure and speculate about the external world without changing it (Zukav, 1979, p.55). However, now, at the end of the 20th century, scientists have been obliged to abandon the Newtonian view and admit that nature is not a huge predictable machine that can be understood by simply studying its parts. Furthermore, modern science now views man as forming an integral part of nature and as such he cannot observe reality without changing it (Zukav, 1979, p.56).

These new perspectives cast doubt on some of the fundamental assumptions underlying both the natural and social sciences. In Accounting, the implication of the new scientific perspective is that information cannot be recognised or measured without changing it, that objectivity is impossible and, consequently all information provided by accountants is biased. Accountants thus create their reality by selecting certain data and discarding others.

The underlying or implicit assumptions of the accounting discipline are still based on a dualistic, mechanistic and reductionistic perspective (Hakanson, 1978; Allen, 1994). In other disciplines, the Newtonian view is to an increasing extent being replaced by a “new science” approach. This approach involves a move from monism and dualism to holism; from wholes and parts to connections, patterns and

relationships; from linearity to non-linearity, and from closed systems to open systems. Basic assumptions about reality such as rationality, predictability, objectivity, entropy and causality are being questioned. The effect of the “new science” approach has already manifested itself in the social sciences in disciplines such as Management Theory and Organisational Theory (Scott, 1978; Peters, 1991). The question is whether Accounting can survive if it continues to use implicit assumptions that are so far removed from those being adopted in its environment, namely business organisations and society?

The challenge confronting accountants is to re-examine their view of reality, its underlying assumptions and the scientific approach adopted in Accounting. Such re-examination may well result in far more radical and profound changes than are envisaged in the current literature. However, periods of discontinuous and open ended change calls for the reassessment of the fundamentals of organisations and disciplines, too.

These challenges may serve as a basis for an improved accounting discipline which in turn provides more useful accounting information. Accounting and the accounting information systems are, however, subject to a number of constraints which also apply to those improvements which may arise in addressing the challenges. These constraints serve to limit the unbridled growth of information.

5.4 Constraints

Changing and improving the traditional accounting model cannot be considered without at least a reference to those aspects that act as constraints to the process. Such constraints serve to limit the undisciplined expansion of information.

The first constraint to Accounting is that of costs versus benefits. Thompson (1995) rightly states that business reporting is not free and no improvement can occur without also considering the relative costs and benefits. The assessment of costs versus benefits is inevitably a difficult and complex process, as these will differ from company to company and from industry to industry. The optimal disclosure level for

individual companies, for all companies in a group, or for society as a whole cannot be identified with certainty (AICPA, 1994a). However, this does not negate the need to perform the assessment even if, at best, it is based on estimates. The ICAEW (1981, p.23) identifies the costs of collecting, processing, reporting and auditing information as the costs of providing information. It includes the cost of adapting to new procedures if information requirements change. The benefits of additional disclosures are more difficult to assess as these may apply to both preparers and users. Users benefit by being able to make better informed decisions while preparers benefit by improved access to capital markets, its favourable impact on the enterprise's marketing and so forth (FASB, 1980a, par.136). The application of the cost versus benefit constraint is only meaningful if used in an open system environment where continuous feedback exists between the accounting information system and its stakeholders so that the relationship of costs to benefits are reassessed in a continuously basis.

In their report the AICPA (1994a) recommends guidelines on how costs of reporting may be contained so that benefits exceed costs:

- Business reporting should exclude information outside management's field of expertise or for which management is not the best source;
- Management should not be required to report on information that would significantly harm the company's competitive position;
- Management should not be required to forecast financial statements;
- Management should be under no obligation to gather information it does not have, or need, to manage the business;
- Certain elements of business reporting should be presented only if users and management agree (the concept of flexible reporting);
- Companies should not have to expand reporting of forward-looking information until there are more effective deterrents to unwarranted litigation.

The second serious constraint to the reporting of information is the limited ability of the conscious mind to process information. Hendriksen and Van Breda (1992, p.215) mention research on the ability of individuals to cope with increasing quantities of

information. The general finding is that decisions improve with increased information until a point is reached where the information provided becomes too much for the individual to analyse. At that point, where the individual begins to experience an *information overload*, decision making begins to degenerate again. Miller (1956) also found, as far back as the middle of the century, that individuals are inclined to limit the amount of information they use for decision-making purposes. This may result from the fact that in most cases, a person's short-term memory is limited to dealing with no more than seven items. However, in organisations the use of computers and groups of individuals for decision making mitigate this problem to some extent. Nevertheless, the provision of excessive and irrelevant information complicates the decision-making process and should therefore be avoided.

The third constraint is often treated as a characteristic of Accounting rather than a constraint and this is timeliness of the presentation of information. There is often an inverse relationship between timeliness and relevance. The longer the information takes to reach the stakeholders, the greater the possibility that its relevance will decline. Although timeliness is seldom an important constraint to internal stakeholders who can call for information when they need it, it is a potentially severe constraint to external stakeholders. The Institute of Chartered Accountants of Scotland (1988, p.81) suggests that the problem of timeliness may be overcome by means of new developments in information technology:

“... it would seem perfectly feasible for a full corporate report to be produced as a sub-set of the reports which are prepared for senior management as often as those reports are provided. Furthermore, it would be feasible for this information to be put on one of the electronic distribution networks at very small cost to the company.”

5.5 Summary

Over the centuries the evolution of the Accounting discipline has been based on an *ad hoc* and pragmatic approach. Accountants addressed problems as they were encountered and then developed appropriate solutions. The accounting system has remained essentially a closed system, focusing largely on the financially measurable

features of trading or manufacturing concerns. This closed system approach has served to insulate the discipline from changes in the environment.

Today's rapidly changing environment is forcing accountants to reassess their role and function both within the organisation and society. The continued disregard of changes in the environment and a lack of innovation will undoubtedly bring the accounting function into increasing disrepute, particularly as accountants recognise publicly that the current system is seriously flawed (Lee, 1987). The accounting information system cannot continue to produce inwardly focused information if the users of the information are increasingly requiring information on customers, suppliers, markets and competition; in other words, outwardly focused information. This implies that Accounting should become a flexible, open system that can readily adapt to changes in its environment. It should become a product of its environment. Accounting should develop from being a watchdog and scorekeeper to being a facilitator of change (Turney & Anderson, 1989). Accounting should progress from passive reporting of objectively verifiable facts of the past to proactive involvement in subjective judgements about the future (Allen, 1994, p.117).

Such a development in Accounting can only be achieved if accountants, academics and standard setters are willing and have the ability to adapt to the changing business environment. Gouws (1997) contends that change will be accountants' only vehicle for survival. Accountants will have to become the drivers of change and the innovators of the accounting discipline, business organisation and broader business environment. This role requires the development of new skills; a different attitude to change, volatility, uncertainty and continuous learning; and a restructuring of the education and training of new accountants (Koornhof, 1997).