

## **CHAPTER 4**

### **CHANGES FACING MANAGEMENT ACCOUNTANTS IN POSTMODERN TIMES**

#### **4.1 INTRODUCTION**

In seeking answers to typical questions associated with morphogenic change (see paragraph 3.2), it becomes apparent that business, and consequently management accountants, have been faced by a confluence of forces of change during the past decade. Chapter 3 defined change, and more particularly the concept of morphogenic change. The three major drivers of change were discussed in paragraph 3.3, namely computer and communication technology, globalisation and the influence of knowledge management in business organisations.

Verma (2002:9), in her deliberations on the impact of change on the development of accounting (based on research by Gray and Hofstede (1988), Robson (1991), and Doupnik and Salter (1995)), came to the conclusion that accounting developed because of the complex interaction between it and the external environment.

Therefore management accounting, as a role player in the business environment and a subfield of accounting, has by no means been unaffected by the drivers of change. Siegel and Sorensen (1999:3) contend that management accounting should undergo perpetual change to remain relevant. They describe change in the world of management accountants as follows:

*The characterisation of management accountants in leading-edge companies has gone from 'bean counter' and 'corporate cop' on the periphery of business decision making, to 'business partner' and 'valued team member' at the very centre of strategic activity.*

Smart Pros (2004:1) support Siegel and Sorensen in stating that management accountants need to shift their focus away from historical information and an inward perspective (see paragraph 2.2) which largely ignores the supply chain, because it is no longer valid. Wyatt (2002:10) speaks of an overriding phenomenon in terms of the future of management accounting, namely that business customs and practices are changing.

This chapter investigates the effect of the changing business environment on the role of management accountants in postmodern times.

## **4.2 MORPHOGENIC CHANGE IN MANAGEMENT ACCOUNTING**

Two authoritative studies on what is required of management accountants were identified in a review of the literature, namely *Competency profiles for management accounting practice and practitioners* by the International Federation of Accountants (IFAC) in 2002, and a study by the Institute of Management Accounting (IMA) in 1996, updated in 1999, called *Counting more, counting less*. These studies are briefly summarised in order to provide a comprehensive overview of the new skills required of management accountants.

Current changes in the business environment were described as morphogenic in paragraph 3.2. Two key questions are typically associated with morphogenic change:

**(1) What is the current situation regarding morphogenic change?**

Answering this question requires a broad overview of the impact of change on the management accounting profession. This question will be researched in paragraph 4.3.

**(2) If the values of management accountants to organisations are influenced by the drivers of change, where are we going?**

The second question associated with morphogenic change, namely Where are we going? will be investigated in chapter 6. A balanced scorecard methodology is used to determine the strategic direction of management accounting in South Africa.

An analysis of the current position of management accounting is necessary to determine the extent to which morphogenic change has affected management accounting. Toffler's waves of change (see diagram 3.2) are applied to assess the role of the drivers of change.

**4.2.1 Toffler's waves of change applied to management accounting**

Toffler (1980:27) saw change as a continuous process occurring in different waves. Each of these waves has an impact on society and consequently on the business environment. The question is therefore: Do Toffler's waves of change have an effect on management accounting?

#### *4.2.1.1 Management accounting and Toffler's First Wave (8000 BC–mid 18th century)*

During the First Wave, which was characterised by the Agricultural Revolution, business activities were localised and technology was minimal. Even business activities that involved "world trade" were structured to create few problems (Wyatt 2002:4).

During Toffler's First Wave, accountants were required to keep a record of cash transactions. However, Wyatt (2002:4) states that even in those early days it became evident that more information would become necessary.

According to Lloyd (2002:4), researchers such as Chatfield and Vangermeersch (1996:13) who examined source documents dating back to 1530, have been able to prove the existence of cost or management accounting at the time. An analysis of one such document describes arithmetic techniques to deal with particular problems of the merchant bookkeeper related to decision making (Lloyd 2002:7). During this First Wave Pacioli developed concern for cash budgeting and variance accounting (Cunagin & Stancil 2002:1).

The Agricultural Revolution soon gave rise to Toffler's Second Wave, known as the Industrial Revolution.

#### *4.2.1.2 Management accounting and Toffler's Second Wave (18th century - late 20th century)*

Wyatt (2002:5) traced changes that took place during the Second Wave and states that enterprises embarked on production activities during this period. The history (see paragraph 2.4.2) indicated that the change in production activities created new accounting challenges.

Business operations became more complex during the Industrial Revolution. Manufacturing expanded and the need for cost control on the one hand and product pricing on the other made new demands on management accountants. Management accounting became firmly established during this period of capital-intensive single-product enterprises such as the railroad, steel and coal industries.

Cost accounting had to expand to deal effectively with changes during the Second Wave (see paragraph 2.4.2), and in the process management accounting developed (Horvath 1999:1). Management accounting was intended to provide accurate cost measures (Birnberg 2000:714). The Industrial Revolution was characterised by the introduction of machines for production purposes, and accountants grappled with problems such as overheads. However, Cunagin and Stancil (2002:1) mention that although the Second Wave of change brought about new developments in cost accounting, no fully-fledged systems were devised until near the end of the 19<sup>th</sup> century. Cooper (2000:6), who focuses on economic expansion towards the end of the 19<sup>th</sup> century, states that the factories had to produce multiple products and that this increase in complexity created a cost assignment problem.

At the beginning of the 20<sup>th</sup> century cost accountants began to study overheads and to speak of absorption costing. During this time Church developed the machine-hour method of applying fixed costs (Loft 1990:2). Other notable changes were introduced to management accounting, for example by Charles Babbage who emphasised the analysis of variances from manufacturing standards, and by Stanley Henrici who is generally described as the father of standard costing. Henrici's work complemented that of Babbage, enabling managers to isolate problem areas (Czarniawska 2002:5110).

As standard costing evolved, the focus shifted from determining product costs to managing efficiency (Smit & Cronjé 2003:38) and another important function of a cost system, namely cost control, emerged (Cooper 2000:6).

#### *4.2.1.3 Management accounting and Toffler's Third Wave (1960s and ongoing)*

The current wave in the business environment started in the sixties of the 20<sup>th</sup> century. Toffler's Third Wave saw the introduction of information technology and knowledge workers (see paragraph 3.3.2 & 3.3.3). The Third Wave is dominated by service organisations and the line between manufacturing and services has become blurred (Toffler 1980:6).

The Third Wave revolves around knowledge – who owns it, and how is it extracted, assimilated and implemented for quick decision making. This knowledge is deemed the primary source of wealth generation. Two distinct periods emerged during this Third Wave (see paragraphs 2.4.3 & 2.4.4). The two periods reflected different views of management accounting and was identified by Birnberg (2000:714) as the modern management accounting and the postmodern management accounting periods.

- *The modern management accounting period (1950–1980)*

Critical change occurred in management accounting during the first part of the Third Wave. Textbooks that emphasised decision making began to appear during this period (Hansen & Mowen 2005:9). Direct or marginal costing was introduced. During this period, management accounting became a field of study at universities and no longer had to be studied through apprenticeships only (Wyatt 2002:5). The Ford Foundation in the US reoriented research in this discipline from descriptive works to empirical, analytical and experimental studies (Maher 2000:337).

- *The postmodern management accounting period (1980- )*

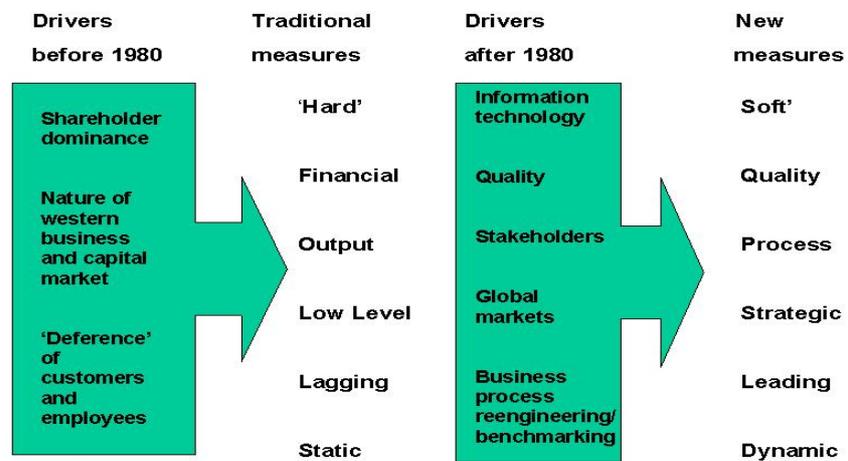
The postmodern management accounting period began in 1980 and signalled a new era for management accounting. As Maher (2000:337) said:

*It became obvious that cost accounting and management control procedures developed to support mass production of products with a high labour content were no longer appropriate for contemporary companies.*

Management accounting extended into nonfinancial areas and field research to gain a better understanding of contemporary business problems and the information needs of managers. According to Wyatt (2002:7), *dissatisfaction with the perceived lack of relevance of historical information grew*. It was widely recognised that quantified information tells only part of the story. Kaplan (in Maher 2000:338) states that changes in the management accounting field were primarily based on business needs, and there is evidence that management accounting practice is presently ahead of academic theory (Hilton in Maher 2000:338).

Boer (2000:320) indicates that most of the changes in the business environment require a changed role from management accountants. Modern management accountants have to make future cash-flow projections rather than produce historical analyses and aggregates of past activities. Binnersley (1996:32) expresses concern about the ability of management accountants to respond to the changed business environment (see diagram 4.1).

**Diagram 4.1: The changing characteristics of performance measures**



Source: *Binnarsley 1996:32*

Diagram 4.1 illustrates that in the period before 1980 performance measures were dominated by demands from shareholders who focused on output and static information. In the post-1980 business environment, stakeholders dominate the need for performance measures, the focus is now on information technology (IT) and other soft issues, and the emphasis is on strategic rather than static information.

### **4.3 THE CHANGING ROLE OF THE MANAGEMENT ACCOUNTANT IN THE BUSINESS ENVIRONMENT**

Management accounting evolved through the Agricultural Revolution to the information age, largely through the impact of three drivers of change, namely globalisation, information technology and knowledge management. Kuleza and Siegel (1997:56) say of this evolution: *much of our metamorphosis has been evolutionary rather than revolutionary, until the last five to ten years, that is.* And,

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

The current status of management accounting, and therefore the effect of the drivers of change on management accounting, warrant a more detailed analysis.

#### **4.3.1 The effect of globalisation on management accounting**

The impact of globalisation on the business environment was discussed in paragraph 3.3.1. The question is: What are the implications for the management accountant? Globalisation creates bigger opportunities but also bigger threats as it opens the market to a much bigger customer and supplier base. Growing markets and increased competition mean that management accounting systems need to be flexible and quick to respond to opportunities and threats.

- Managers can no longer afford to wait for strategic information: *Senior management wants to know yesterday* (Siegel & Sorensen 1999:15). Globalisation also implies that information must be accessible from anywhere in the world Institute of Chartered Accountants of Australia (ICAA 1998:20). Organisations no longer have to be in close proximity to the management accountant to access useful information. Managements can seize the opportunities created by globalisation to offer services in multiple economies (Hill 2003:6).
- Globalisation also means that knowledge of international markets and different cultural environments is important. Providing services in multiple economies means that the management accountant has to be aware of the inherent risks involved in operating in multiple economies as well as of the legal, health and environmental issues that apply to these economies.

Management accountants now use new costing techniques to help their organisations develop globally competitive products and services. They have to accurately measure the costs of business operations and identify ways to reduce these costs. This in turn implies that management accountants must develop and sustain a culture of innovation (ICAA 1998:21).

- Globalisation implies that qualifications will become portable and internationally recognised. This aspect creates both opportunities and threats, as professionals have to compete in their country of origin against international competitors. The competition may be able to provide management accounting services at a much lower cost as business opportunities in underdeveloped countries such as Hungary, Russia, and Poland increase (Hayward 2003:10). A study by Lacity and Willcox (1998:369) indicate that cost saving was by far the most favourable reason / expectation for outsourcing noncore activities. *By moving operations to countries such as India, companies are also gaining greater productivity and better service from a highly skilled and stable workforce* (Bromage 2000:23).

Relentless competitive pressure will reduce the functional life of business units. The ICAA (1998:15) believes that management accountants would be best placed to advise on new strategies and structures to realise opportunities and prevent threats from impacting on the bottom line. Huge opportunities will be available for professional management accountants with the specialist knowledge and skills sought by global organisations (ICAA 1998:20).

### 4.3.2 The effect of information technology on management accounting

The second driver of change (see paragraph 3.3.2), namely increased attention to information technology, has significant implications for organisations and for functional role players in these organisations. Siegel and Sorensen (1999:15) make the following comment:

*The pace of change in technology is becoming much faster, and accounting and finance people are very heavy users of technology, more so than a lot of other functions.*

The changing role of the management accountant in response to the IT evolution is illustrated in diagram 4.2

**Diagram 4.2: A framework of management's role by focusing on the IT evolution**

<b>Stage of IT evolution</b>	<b>Role of IT</b>	<b>Impact on management accountant</b>	<b>Effect on work of management accountant</b>
Automation, cost control and efficiency	Administrative	Task mechanism	Process automation
Productivity and end-user empowerment	Operational	Work improvement	Functional enhancement
Value creation and end-user business effectiveness	Competitive	Role differentiation/ expansion	Functional redefinition

*Source: Gartner 1999*

Diagram 4.2 indicates that IT, by virtue of the stage of evolution it has reached, has a different impact on management accounting each time. In an administrative capacity, IT embraces the automation of accounting functions, whereas IT in an operational role enables the entire set of business processes (not merely administrative processes) to be automated. At the present stage of its evolution IT offers the ability to leverage information to obtain differential sources of competitive advantage in the marketplace. IT is forcing management accountants to redefine their role by offering them new challenges (Boggs 1999:14).

IT has experienced different waves of change that are identifiable by the characteristics illustrated in diagram 4.3.

**Diagram 4.3: Characteristics of identifiable IT applications in the Second and Third Waves of computer technology**

<b>Characteristic</b>	<b>Second Wave of IT (industrial age)</b>	<b>Third Wave of IT (digital age)</b>
Primary tool	Machines	Information creation, distribution and application
People	Division of labour	Connectivity of workers through teams, interconnectivity, shared information
Productivity	Mechanisation and automation	Information technology
Partnership	Partnership between man and machine	Partnership of people with people

*Source: Gartner 1999*

Diagram 4.3 indicates that machines (such as mainframes and personal computers) were present during the second wave of change. However, these machines focused on mechanisation and automation (e.g. capturing and processing financial information). The Third Wave of change in computer technology is driven by the convergence of computer and telecommunication technology.

The Chartered Institute of Canadian Accountants (CICA) (1996:8,9) suggests that management accountants should view the changes in IT with some trepidation. Past experience has shown that automation of the “production” of financial information was accompanied by loss of market share and the entry of other professions and disciplines into designated markets.

*The advent of the virtual organisation has caused company boundaries to become porous, with wealth generators becoming increasingly intangible, including such assets as intellectual capital and the organisation's ability to learn and innovate.*

Due to the impact of the drivers of change, the role of management accountants has moved beyond the traditional role of accumulating facts. Boer (2000:321) says: *Technology will enable managers to do for themselves what accountants in the past have done for them.* Companies now go beyond financial statements and offer other types of financial and nonfinancial information (Trites 1999:1): *The Web is beginning to challenge the very nature of accounting, its boundaries, its frameworks and even its fundamental role in society.* The future of management accountants depends on how able they are to adapt and respond to emerging technologies.

IT places great emphasis on timely disclosure (Trites 1999:66). In the new reporting environment, the focus will move from the periodicity of reporting

management accounting information to real-time reporting. The ICAA (1998:39) foresees significant investment in technologies by management accountants.

The 21st century user will demand customised financial information reporting, and the concepts of internal reporting (management accounting) and external reporting (financial reporting) will have to be integrated. More data will be stored electronically and management accountants have to understand what data integrity entails (ICAA 1998:43).

According to the ICAA (1998:45), management accounting education systems need to rapidly accommodate new business needs. Information and telecommunication technology should become core competencies of the cost management profession (ICAA 1998:79).

#### **4.3.3 The effect of knowledge management on management accounting**

In this latter part of the Third Wave, information has become a commodity and knowledge is valued. The ICAA (1998:18) suggests that business success *inter alia* depends on the management accountant's ability to convert information into knowledge in a cost-effective manner.

- Outsourcing (i.e. having certain activities performed by another company) is on the increase (Thomsett 1998:1). Bromage (2000:23) conducted a survey in this regard and reported that 83% of the respondents expected to increase their level of outsourcing. The survey revealed that outsourcing is used for several reasons, for example improved efficiency and cost reduction. Management accountants are in an ideal position to take advantage of this growing opportunity.
- Knowledge management demands specialist information. If the universities fail to respond to new demands, alternative suppliers of

professional qualifications will emerge. This is already happening through institutes such as the Chartered Institute of Management Accountants (CIMA) (see paragraph 2.6.1 & 2.6.2).

It is evident from the above analysis of the impact of the three drivers of change that the role of the management accountant has undergone and still is undergoing morphogenic change.

#### **4.4 CAPABILITIES REQUIRED OF MANAGEMENT ACCOUNTANTS IN THE NEW MILLENNIUM**

Academic education has always provided support and the ability to cope with a changed business environment. If academia intends to continue in this role, the fundamental nature of the forces of change suggests that academic curricula have to be drastically reformed. According to Venter (2003:2), however, it appears as if the academic world remains either unaware of or is turning a blind eye to these forces of change. He believes that the current learning environment mirrors an environment that is much closer to the work environment of fifty or more years ago. Gavin Sher (in Venter 2003:12) supports the view that graduates are not equipped to deal with a changed world of work:

*Ask any employer what it is like to take on a graduate, and the initial response is likely to be shell-shocked silence. The products of our current education system are people who are completely unprepared for the world of business.*

The Kellogg Commission (Ryan 2004:3) noted in 1999 that educators had to redesign their teaching, research and service functions. This important Commission's idea of the ideal engagement, namely consultation with industry on what should be taught, profoundly differs from the traditional one-way transference of knowledge and technology in most universities. Siegel and

Sorensen (1999:6) plead that the universities should obtain a better understanding of the work performed by management accountants in modern corporations in order to better meet the needs of their students. These authors believe that regular meeting with practising management accountants and visits to their companies provide the ideal answer. In support of Siegel and Sorensen, Kaplan says (in Maher 2000:8) that change comes through practice and not through academia.

This brings us back to the fundamental purpose of this study – do management accountants display the skills required to meet the challenges of the changed business environment? Furthermore it leads to questions on how have academic institutions managed these change factors in the curricula they teach to provide the required capabilities to future management accountants (Medani (1997:1)? Although it falls outside the ambit of this study to discuss the merits of successful curriculum design, it would be prudent at this point to first provide a brief explanation of what is meant by curriculum design.

Various definitions of curriculum design exist but educationalists generally distinguish between two types of curriculum design, namely traditional and outcomes based design (Dreyer & Booyse 2004:115). Carl (1995:94) defines traditional curriculum design in terms of certain common factors namely situational analysis; formulation of goals and objectives; choice and classification of content; choice of techniques; methods and media; choice and classification of learning experience; planning and implementing of teaching / learning situation and evaluation of learners. Whilst Spady and Marshall (1991:67) define outcomes based curriculum design in terms of the *culmination of relevant outcomes which represent job and life roles*.

Kinney (2003:41) also mentions that curriculum design provides structure in order to attain particular educational objectives. Arya, Fellingham and Schroeder (2003: 29) note that the first issue to confront any curriculum design exercise is

which benefits will accrue to both faculty and students who take part in the curriculum. Whilst Kinney (2003: 43) state that curriculum should:

- *cover the broad relatively unchanging topics that underlie causes and consequences of choices in practice*
- *allow specialization in a combination of subdisciplines, certain current issues, and specialised research tools*
- *be efficient and effective.*

Kinney (2003:47) expands his notion of curriculum design by saying that *we can design courses as individuals but curriculum design requires cooperation and coordination among professors as well as shared vision of objectives and how best to achieve them.*

The various definitions of what is important in curriculum design is best summarised by IFAC (2002a:237) who notes the two major aspects involved in the curriculum design as focus and content and learning. Focus according to the Encarta World English Dictionary (2005) refers to concentrate mainly on something. In curriculum design this should then according to opinions held by Arya *et al* (2003:29) and Kinney (2003:47) be to concentrate on pleasing the stakeholders in education that is government, students and practice. According to IFAC (2002:237) the second aspect, content and learning, requires both knowledge and skills to be developed. This requirement is also supported in the Review of training and Education report (Professional accounting oversight board 2005:16) which stated:

*A change that we are making in the background of the expanding technical base is to move away from a "body of knowledge" approach to a "competency based" education and assessment process. This seeks to ensure that trainees are better equipped with the necessary competencies*

*at the outset of their careers, competencies that will be developed further over their careers.*

Authors such as Albrecht and Sack (2000:2), Kaye (2004:13) and Ryan (2004:1) have asked questions about the capabilities of management accountants to meet future challenges. The aforementioned discussion indicates that the curricula taught should provide the required capabilities to future management accountants to meet the challenges of the changing business environment. The Institute of Management Accountants (IMA) (1999) and the International Federation of Accountants (IFAC) (2002a) undertook authoritative studies with regard to the capabilities required.

#### **4.4.1 The IMA study (1999)**

The Institute of Management Accountants (IMA) studied how the skills of management accountants have been influenced by change over a number of years. (A summary of the study is included in annexure 3.)

The IMA study involved 300 practising management accountants who were randomly sampled from the IMA and American Institute of Certified Public Accountants (AICPA) membership rosters. The respondents were required to have at least seven years of management accounting experience in order to answer questions about change over the past five years. Personal interviews were conducted with management accountants at five companies known to be at the leading edge in management accounting practice (IMA 1999:5).

The most valued skills for entry-level accountants involved communication, teamwork, analysis, general accounting and a thorough understanding of business functions. Siegel and Sorensen (1999:7) make the following comment:

*Growing numbers of management accountants spend the bulk of their time as internal consultants or business analysts within their companies. Technological advances have liberated them from the mechanical aspects of accounting. They spend less time preparing standardised reports and more time analysing and interpreting information. Many have moved from the isolation of accounting departments to be physically positioned in the operating departments with which they work. Management accountants work on cross-functional teams, have extensive face-to-face communications with people throughout their organisations, and are actively involved in decision making. In many organisations, management accountants take on leadership roles on their teams and are sought out for the valuable information they provide. They are trusted advisors. They are 'business partners'.*

The IMA study highlighted the change in the work performed by management accountants (see diagram 4.4).

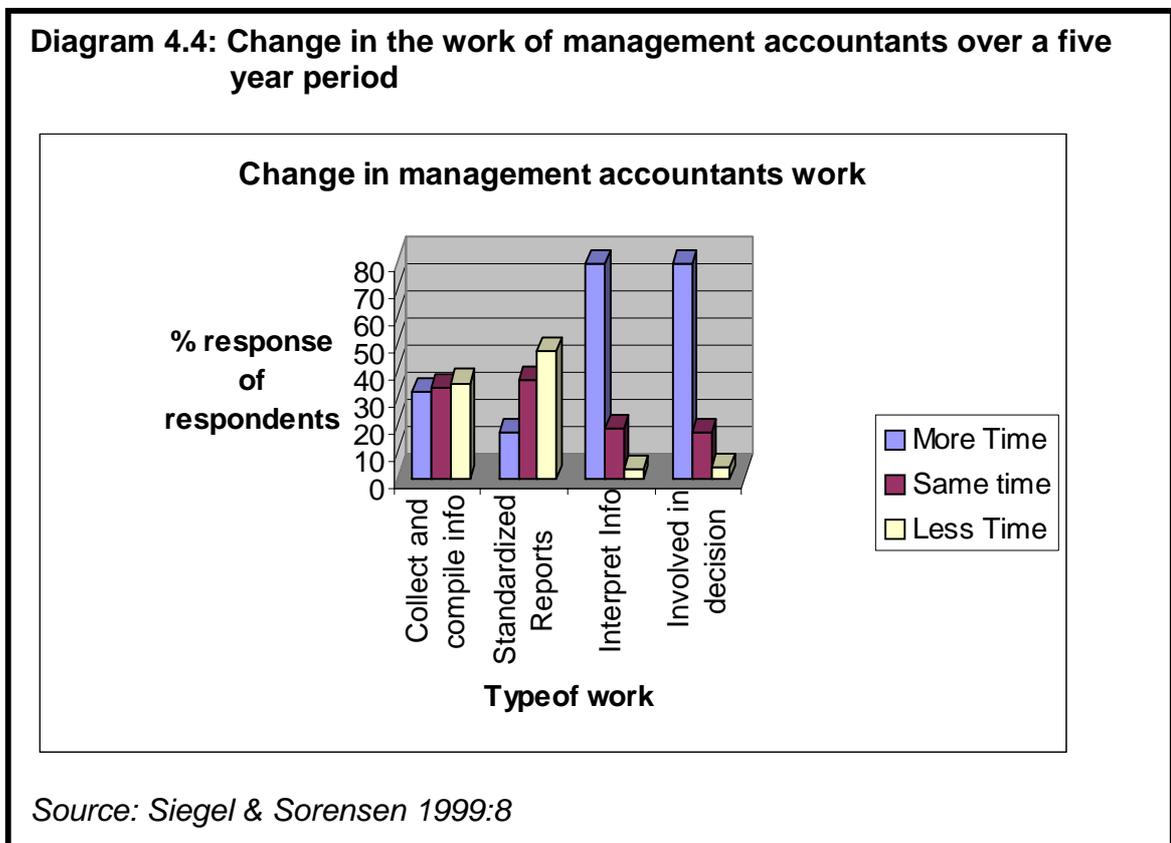


Diagram 4.4 groups the work of management accountants into four categories: collecting and compiling information, standardised reporting, interpretation of information, and involvement in decision making. Siegel and Sorensen found that nearly 80% of management accountants spend more time analysing information and participating in decision making than they did five years ago. They also reported that more than 80% of the participants in the survey expected to spend even more time on these activities in future.

The IMA findings are substantiated by a CIMA membership and employer survey in the UK (Hassal, Joyce, Montano & Anes 1999:52) (see annexure 4). While technical accounting skills were still valued, these functions were increasingly automated or delegated. The following activities were given higher priority:

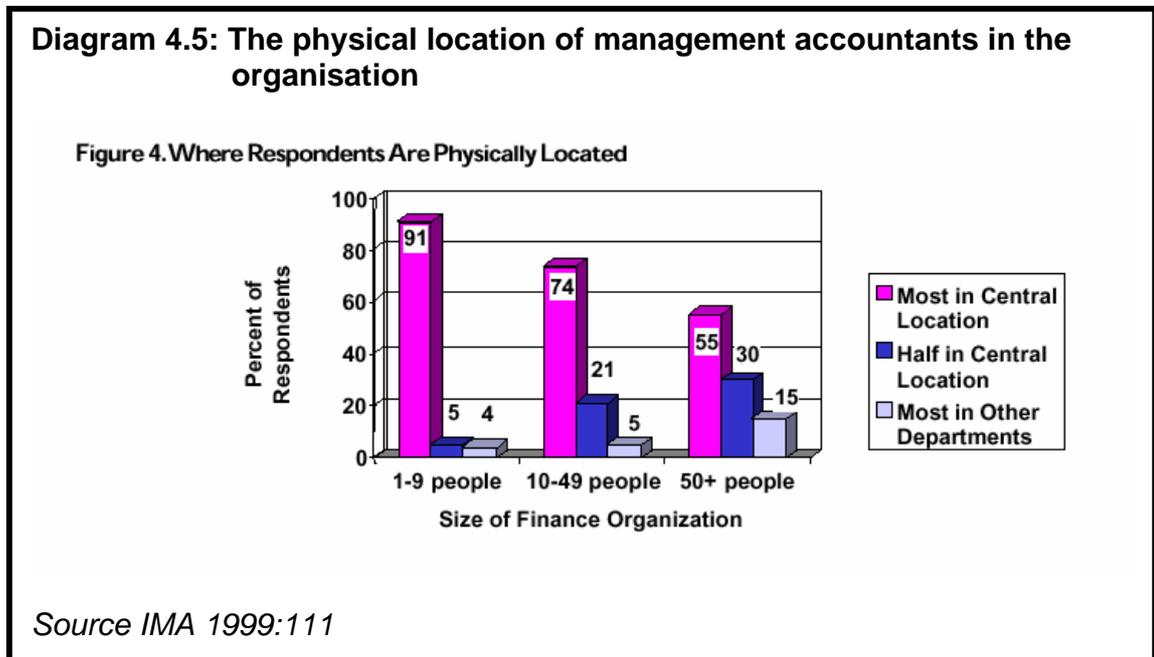
- Design and maintain management information systems.
- Advise on operational decisions, programmes and projects.
- Manage and organise personnel.
- Develop strategic financial plans.

Further support for the IMA findings came from Burns and Yazdifar (2001:33) who reported on a study in which four similar vital skills were mentioned:

- IT/system knowledge skills
- Analytical/interpretative skills
- Broad business knowledge skills
- The ability to integrate financial and nonfinancial information

The most important finding of the IMA (1999:7) research at that point is that two critical activities of management accountants, strategic planning and process improvement -- is not taught in management accounting curricula.

Another important area highlighted by the IMA research is the position of the management accounting function in business (see diagram 4.5).



According to diagram 4.5, 20% of the respondents stated that at least half the management accountants who traditionally worked apart from the operating departments had moved out of the central accounting area and are now located in the operating departments they service.

The IMA research on education expressed serious concern about the appropriateness of the name "management accountant". Siegel and Sorensen (1999:8) reported:

*The term 'management accountant' is prevalent in the academic accounting literature, but is rarely used in practice. Respondents refer to themselves as working 'in finance,' as analysts, business partners, business managers, or controllers.*

#### **4.4.2 The IFAC study (2002)**

The International Federation of Accountants (IFAC) study (2002a:4) answered several questions on the capabilities of management accountants. A key question was, Where is management accounting going? (An overview of the study is included in Annexure 5.)

An important finding of the IFAC (2002a:56) research is the differentiation and integration of management accounting roles within the management accounting function. This finding supports Siegel and Sorensen's statement on the IMA research (1999:2):

*For decades, most college and university accounting programs were geared towards preparing students for careers in public accounting, despite the fact that most accounting graduates took jobs in corporations, never sat for the CPA exam, and never worked in public accounting firms. Helping to sustain this educational focus were the influence of CPA firms, which each year hired many accounting graduates, and the image of CPA certification, among accounting students and their parents, and by many accounting professors, as the Holy Grail of an accounting education.*

It is clear from both the IMA and the IFAC studies that management accounting education should no longer be deemed a by-product of accounting education. Management accounting comprises well-defined roles (see diagram 4.6)

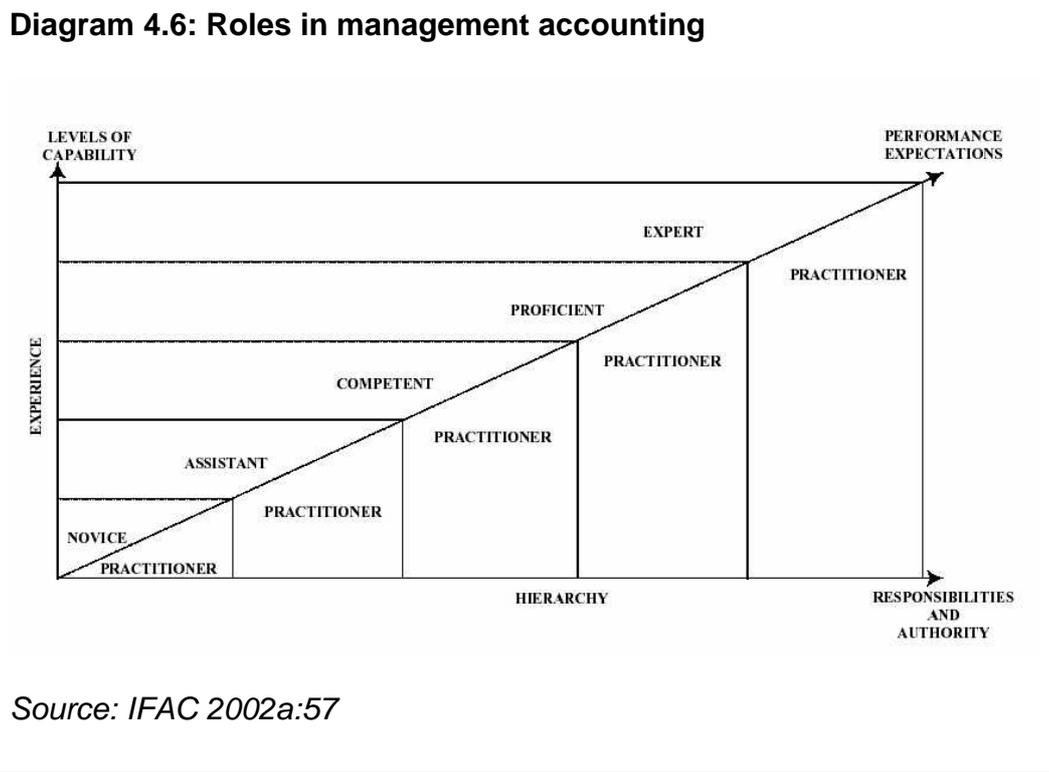
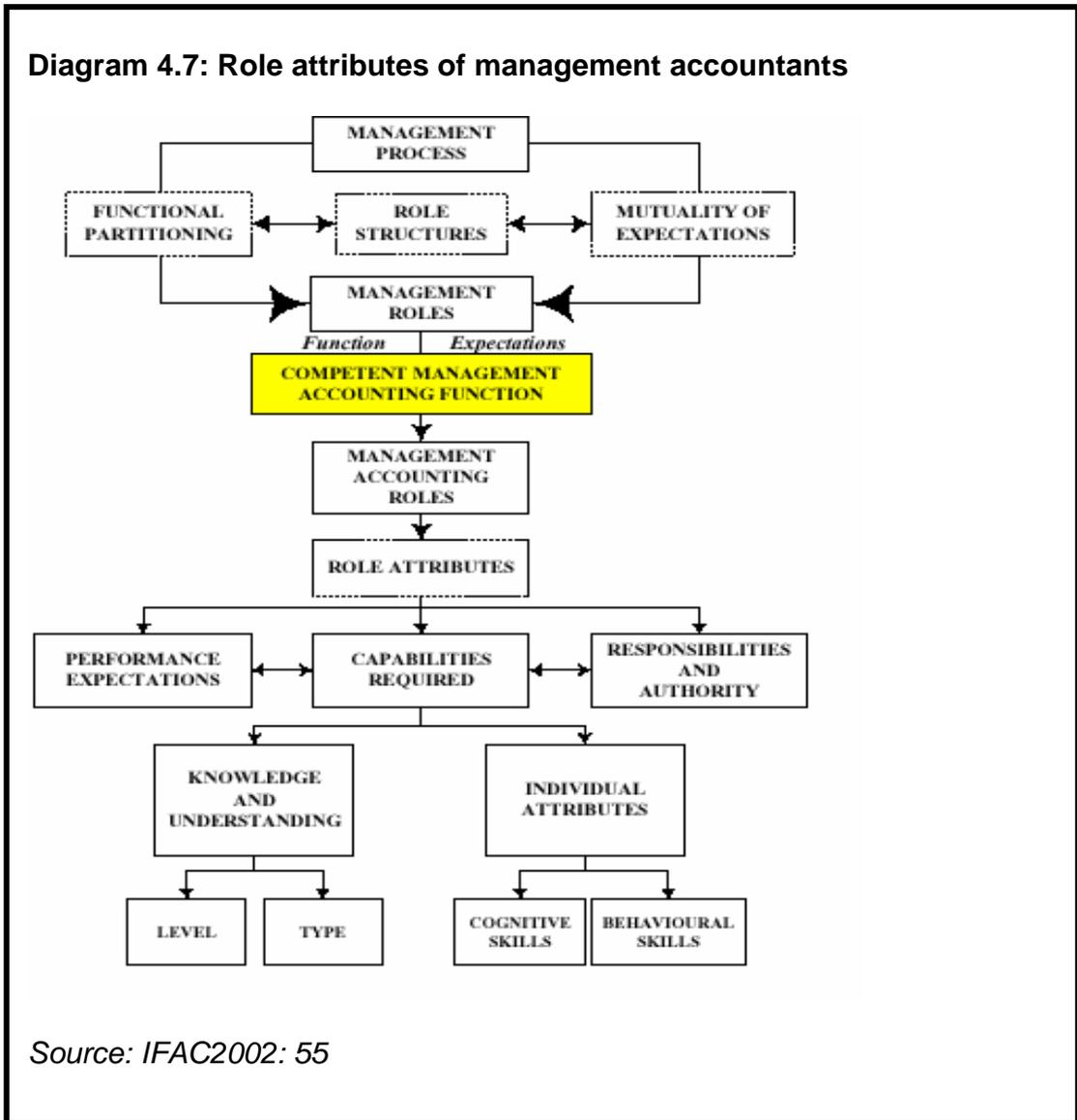


Diagram 4.6 identifies a hierarchical role structure for management accountants, namely from novice to expert practitioner. The roles are distinguished in terms of the management accountant's ability to contribute to performance within the management accounting function, based on expertise and experience. The diagram illustrates the fact that hierarchy and expertise affect the performance expectations associated with these roles. With an increase in experience, responsibility and authority, the management accountant will rise in the hierarchy.

The management accounting roles illustrated in diagram 4.6 require certain role attributes and these are illustrated in diagram 4.7 below.

**Diagram 4.7: Role attributes of management accountants**



Source: IFAC2002: 55

It is clear from diagram 4.7 that competence in the management accounting function is underpinned by management accounting roles that are in turn associated with particular role attributes. One of these role attributes is the expectation of specific capabilities. The capabilities in turn rely on knowledge and certain individual attributes. The individual attributes are further classified into cognitive and behavioural skills (see Diagram 4.8) and a knowledge component (discussed in paragraph 4.4.3).

**Diagram 4.8: Individual attributes**

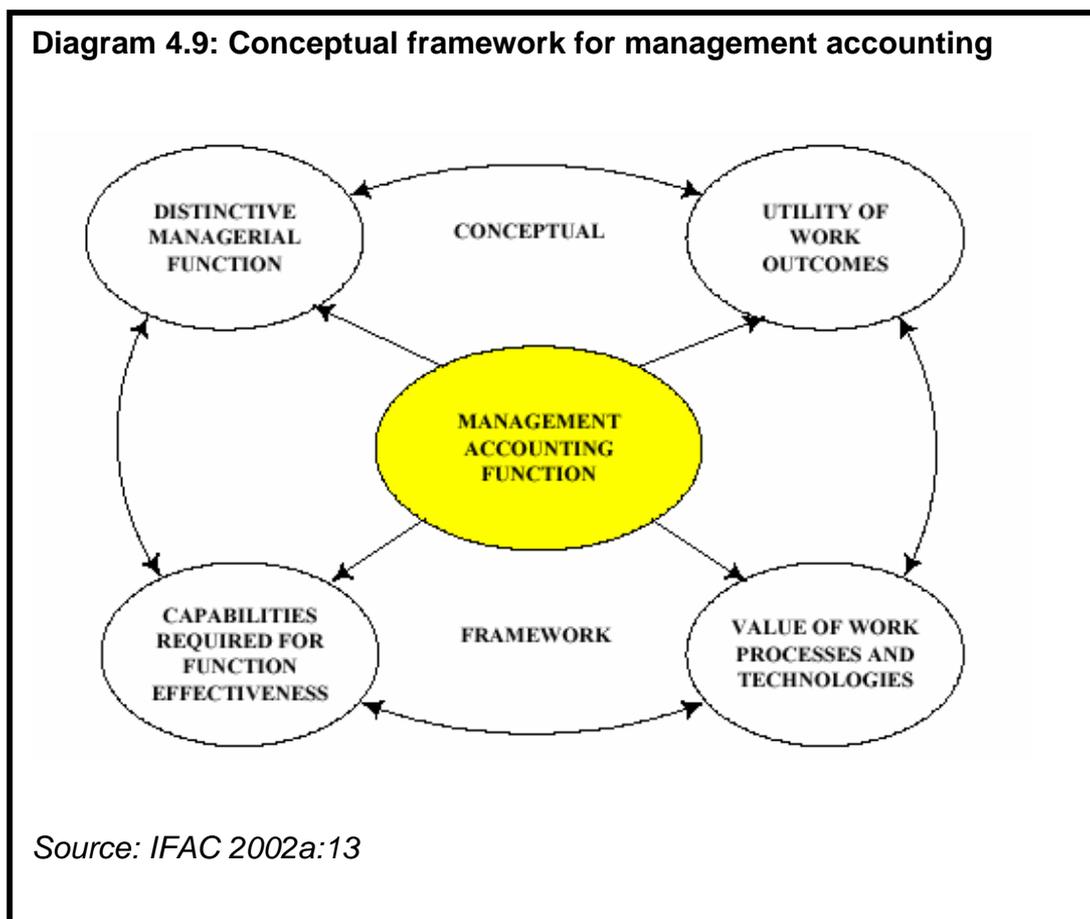
<b>Cognitive skills</b>	<b>Behavioural skills</b>
<b>Technical skills</b> <ul style="list-style-type: none"> <li>• Communication</li> <li>• Numeracy</li> <li>• Computer literacy</li> <li>• Accounting literacy</li> <li>• Financial management</li> <li>• Planning and forecasting</li> </ul>	<b>Personal skills</b> <ul style="list-style-type: none"> <li>• Inquisitiveness</li> <li>• Balance</li> <li>• Flexibility</li> <li>• Directed</li> <li>• Coping</li> <li>• Intelligence</li> <li>• Morality</li> </ul>
<b>Analytic/design skills</b> <ul style="list-style-type: none"> <li>• Information literacy</li> <li>• Research</li> <li>• Analysis/problem structuring</li> <li>• Planning</li> </ul>	<b>Interpersonal skills</b> <ul style="list-style-type: none"> <li>• Communication</li> <li>• People skills</li> <li>• Team leadership</li> </ul>
<b>Appreciative skills</b> <ul style="list-style-type: none"> <li>• Discrimination</li> <li>• Critique</li> <li>• Responsiveness</li> <li>• Value orientation</li> <li>• Disciplinary perspective</li> </ul>	<b>Organisational skills</b> <ul style="list-style-type: none"> <li>• Organisational awareness</li> <li>• Value negotiation</li> <li>• Network management</li> <li>• Advocacy and representation</li> <li>• Process management</li> <li>• Project management</li> <li>• Function management</li> <li>• Organisational management</li> </ul>

*Source: IFAC 2002a:79*

In terms of diagram 4.8 above, the individual attributes are made up of cognitive skills that are in turn subdivided into technical skills, analytical skills and appreciative skills. The second component of the individual attributes, namely behavioural skills, is subdivided into personal skills, interpersonal skills and organisational skills (see annexure 6).

The IFAC (2002a:13) study also defines (and elaborates on) a conceptual framework for management accounting (see diagram 4.9). This conceptual framework focuses on best practices in terms of the following:

- The capabilities required for effective performance of the distinctive work of the management accounting function
- Assessments of the organisational value of work outcomes of the management accounting function
- The usefulness of the management accounting function's work processes and technologies



The conceptual framework illustrated in diagram 4.9 consists of an articulated set of concepts categorised in terms of the following:

- The distinctive function of management accounting within the organisational management process
- The way in which the usefulness of the outcomes of the management accounting process can be tested
- Criteria that can be used to assess the value of the processes and work technologies used in management accounting
- The capabilities necessarily associated with the effectiveness of the overall management accounting function

Another highlight of the IFAC study is that it provides a specific focus for educators in management accounting programmes. The IFAC (2002a:246) study states that those concerned with the education and training of management accounting practitioners may use the research to establish or validate present programme offerings. The competency standards may be used *to illuminate relations between management accounting work and education and training initiatives to facilitate learning related to such work.*

Several issues may be addressed within the competency framework (IFAC 2002a:247):

- The types of learning involved in building competency in management accounting work, how this learning should be structured and where it might best be acquired
- The extent to which competency developed by management accounting practitioners lies outside formal education
- Relationships and differences between work experience, professional development programmes and formal education in developing the competency of management accounting practitioners

- The manner in which international differences in modes of learning related to management accounting practice might best be understood and accommodated
- The bodies of knowledge relevant to management accounting work, and how knowledge structures and ways of knowing alter with progressive experience in practice
- The manner in which prior learning and tacit "knowledgeability" of those entering management accounting roles (as novices or otherwise) might best be "recognised" or assessed in various domains
- The extent to which the cognitive and behavioural skills associated with competent role-taking in management accounting represent generic individual attributes associated with managerial or professional work at varying levels of experience or expertise
- The manner in which redundancy in the forms of learning used in various domains to prepare and develop competent management accounting practitioners may be exploited to reduce waste while adding value
- The last significant issue revealed by the IFAC study is the importance of assessment in order to determine the competence of management accountants (see diagram 4.10).

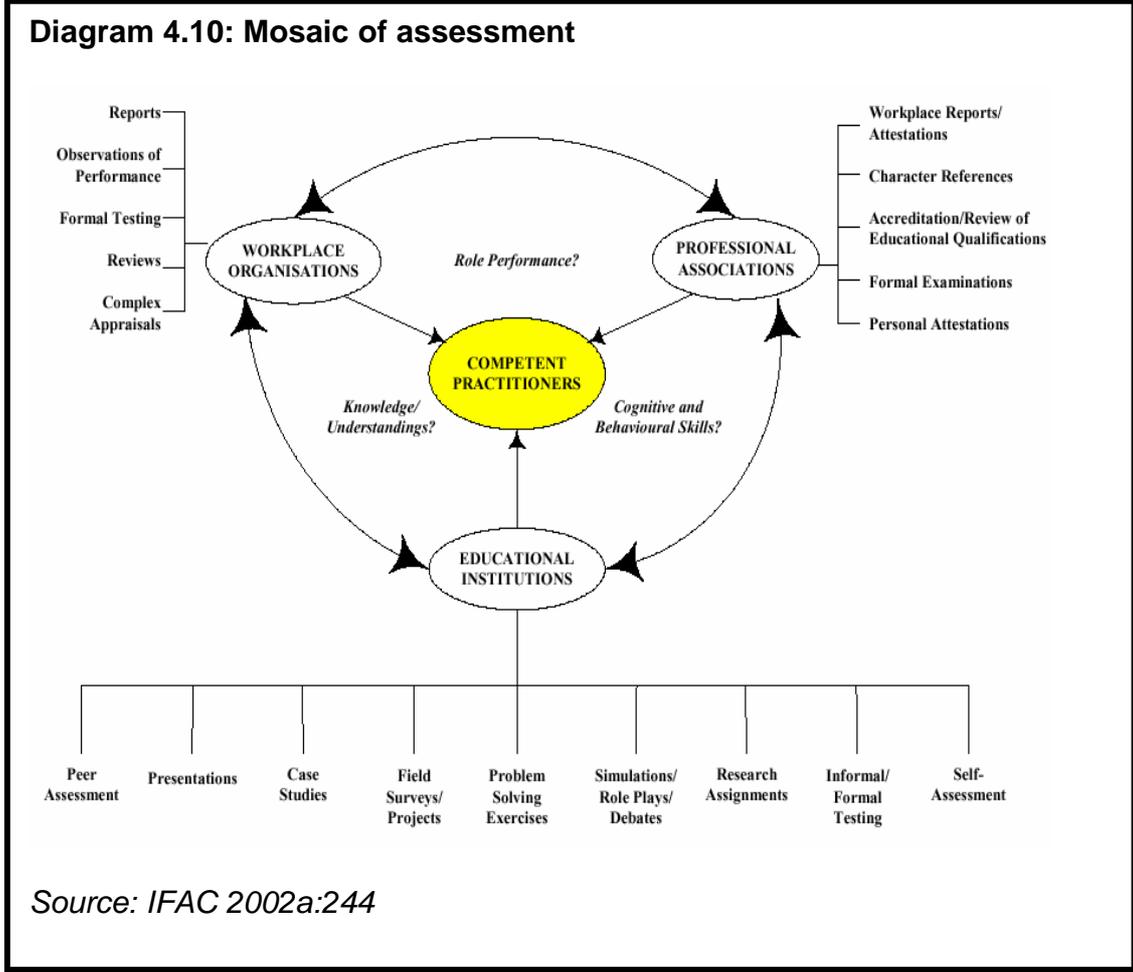


Diagram 4.10 shows that, in order to assess the capabilities of management accountants, a varying combination of forms of assessment is required, not only in the workplace and among professional institutions but from educational institutions as well. Assessment according to the IFAC (2002a:244) is not only pervasive but also critical for individuals. The IFAC (2002a:244) states that the significance of assessment tends to be *underplayed and under-recognised*.

Both the IMA and IFAC studies made significant contributions to answering questions regarding the skills and knowledge management accountants need in a changing environment.

#### **4.4.3 Knowledge required of management accountants**

The IFAC (2002a:65) states that knowledge refers to substantive understanding and suggests active involvement in performance and learning. Accordingly, awareness and understanding denote different ways of knowing as knowledge without understanding is based on principles and abstractions, independent of performance situations or contexts. The IFAC pleads for substantive knowledge rather than mere knowledge in the training of management accountants.

The IMA (1999:41) study also refers to the knowledge aspect (see diagram 4.11). The respondents were asked to list those activities that would take up more time in future.

**Diagram 4.11: Future work activities of management accountants**

<b>WORK ACTIVITIES EXPECTED TO OCCUPY MORE TIME THREE YEARS FROM NOW (2002)</b>		
<b>Work activity</b>	<b>Number of respondents</b>	<b>Percentage</b>
Long-term, strategic planning	124	41,90
Internal consulting	89	30,10
Computer systems and operations	73	24,70
Process improvement	67	22,60
Financial and economic analyses	65	22,00
Mergers, acquisitions and divestments	65	22,00
Performance evaluation	48	16,20
Customer and product profitability	43	14,50
Tax planning and strategy	36	12,20
Managing the accounting/finance function	33	11,10
Short-term budgeting process	28	9,50
Compliance reporting for government or regulatory agencies	26	8,80
Capital budgeting	26	8,80
External financing	25	8,40
Accounting systems and financial reporting	22	7,40
Educating the organisation	22	7,40
Quality systems and control	21	7,10
Risk management	20	6,80
Project accounting	19	6,40
Human resources and personnel	18	6,10
Investment of funds	17	5,70
Accounting policy	16	5,40
Cost accounting systems	14	4,70
Resource management	9	3,00
Tax compliance	9	3,00
Transfer pricing	7	2,40
Consolidation	6	2,00
Internal auditing	6	2,00
Credit and collection	6	2,00
<b>TOTAL NUMBER OF CASES</b>	<b>296</b>	<b>100,00</b>

Source: IMA 1999:42

According to Diagram 4.11, the traditional aspects of management accounting such as cost accounting systems would take up less time in future. Long-term strategic planning, internal consulting, computer systems and operations were expected to take up more time.

In the early 1980s management accountants were not part of the decision-making process but functioned as support staff for the decision makers (refer to 2.4.4). Their time was spent on the mechanical aspects of accounting such as preparing budgets and expense reports (Siegel & Sorensen 1999:3). McNair (2000:29) also describes the role of the management accountant as emphasising costs and production, summarising results, and allocating the pool of shared resources to various products. However, in a fast-paced business world, management accountants have become information providers (McNair 2000:28). This key transformation in cost management practice is illustrated in diagram 4.12.

**Diagram 4.12: Key transitions in cost management practices**

<b>Key transition</b>	<b>Late 20<sup>th</sup> century cost management</b>	<b>21<sup>st</sup> century cost management</b>
Dominant focus	Internal	External
Key disciplines	Finance/accounting	Marketing/economics
Primary concern	Cost impact	Cost-value relationships
Primary role	Scorekeeper	Analyst and consultant
Management responsibility	Follower/reactive	Leader/proactive
Dominant personal traits	Technical proficiency Control orientation Skilled in detailed work	Comfortable with ambiguity Strong analytical skills Life-long learner Strong management skills
Role of cost estimates	Measure of operational efficiency	Measure of strategic effectiveness

*Source: Mc Nair 2000:31*

## 4.5 CONCLUSION

The role of the management accountant has been changing throughout the different waves of change identified by Toffler (1980:27). During the First Wave of change management accountants performed simplistic functions such as cash budgeting. The Second wave, with its emphasis on production activities, created new opportunities for management accountants. The Industrial Revolution brought about a growing demand for expertise in both cost control and the pricing of products. During this Second Wave management accountants started to grapple with accounting for overheads and standard costing.

However, during the Third Wave of change the business environment became dominated by IT and service organisations. The Third Wave is split into two distinct periods, namely the modern accounting period and the postmodern accounting period, each reflecting different views of management accounting. The postmodern management accounting period that started in the 1980s and still continues introduced a completely new era for management accountants.

In the late 20<sup>th</sup> century organisations anxiously reacted, through their management accountants, to the waves of change brought about by the three major drivers of change, namely globalisation, IT, and the knowledge economy. The impact of the three drivers of change on management accountants and perceptions of their future skills requirements were discussed in this chapter.

Questions were raised in this chapter on how academic institutions managed these change factors in the curricula they teach to provide the required capabilities to future management accountants. In a brief discussion on curricula design identified *focus* and *content and learning* as the main issues to be addressed in the design process.

The development of advanced management accounting systems will be studied in the next chapter. An appropriate performance measurement tool to establish whether management accounting education in South Africa is aligned to the changed business environment will also be discussed.