Chapter 6 The construct of flexibility

> "Developing flexible organisations is critical for business enterprises in the 1990s. Flexibility is a multi-dimensional concept – demanding agility and versatility; associated with change, innovation and novelty; coupled with robustness and resilience, implying stability, sustainable advantage and capabilities that may evolve over time."
>
> (Bahrami, 1992)

6.1 Introduction

In previous chapters the rapidly changing environment and its impact on businesses and their accounting information systems were discussed. This changing environment has resulted in substantial changes being introduced into the way in which organisations are managed, and their accounting information systems will have to adapt to these changes.

In this chapter the construct of flexibility in organisations is described and classified. As a point of departure, the following assumptions were made about it in chapter 1:

- It is discriminate and can be used to distinguish between business organisations;
- It is observable in business and affects human behaviour;
- It is measurable in that different types and levels can be distinguished; and
- It is operational in that it can be implemented in business organisations.

The chapter commences by providing a background on the role of flexibility in business organisations. The literature on management theory is used to motivate the need for the development and management of existing and new flexibility in businesses. The phenomenon of flexibility, observed in business and referred to in the literature, is refined into a construct by defining the idea and demarcating its field of study. The next section addresses the nature of flexibility further by considering its relationships to aspects such as survival, change, uncertainty, risk and strategy. Once the construct has been defined, a classification framework is suggested which forms the basis for studying flexibility in business organisations and for measuring information on flexibility. Six categories of flexibility, based largely on a functional approach, is used to identify the different types of flexibility in organisations. The scope of each of these categories is discussed and illustrated by means of examples. The chapter concludes by suggesting implementation procedures for designing more flexible enterprises.

Before the construct of flexibility can be introduced into Accounting and accounting information, it is necessary first to consider its nature and role in the business organisation.

6.2 Role of flexibility

This central role that flexibility plays in the survival and success of organisations in a changing environment is well recognised by several authors in Management Theory. Peters (1991, p.635) suggests 45 prescriptions for becoming and remaining a successful business but concludes that the *chief axiom* is the necessity of attaining and maintaining heretofore undreamed of *flexibility*. He notes that each of his prescriptions is aimed at advancing the achievement of flexibility. Pasmore (1994, p.4) maintains that the more flexible an organisation becomes, the better it can respond to change. Volberda (1998, p.xi) suggests that the flexible firm facilitates creativity, innovation and speed while maintaining co-ordination, focus and control. Allen (1994, p.1) contends that under conditions of rapid change, competitive advantage is more likely to be a function of the organisation's awareness, anticipation and adaptability and implies that flexibility in the organisation is inherent in these qualities. According to Drucker (1980, p.47) a business needs to be able both to ride out sudden hard blows and avail itself to unexpected opportunities in turbulent times. This implies that the business should be flexible enough to handle both the unexpected threats and opportunities posed by an uncertain future and unstable environment. Finally, Johnson (1992, p.89) identifies responsiveness and flexibility as the two qualities for organisational success, and emphasises that the need to be flexible and not just responsive, is an implicit imperative of competition in the information age. He argues that a failure to understand the costs of complexity and the *benefits of flexibility* caused American companies to lose market share and profitability to more focused and flexible competitors in the 1970s and 1980s (1992, p.52).

Managers of companies seem to be aware of the benefits of being flexible but lack the necessary guidance to create this rather ethereal and elusive quality in their organisations. Steers (1975) noted that flexibility was the evaluation criterion mentioned most often in organisations. Unfortunately there is relatively little theory on flexibility as well as a lack of theoretical frameworks to guide management in understanding and identifying different types of flexibility and in creating and sustaining flexible organisations (Volberda, 1998). Eppink (1978) confirms that although flexibility may be regarded as a means of addressing organisational problems, the areas for enhancing flexibility remain largely unexplored. The methods adopted by managers to create flexibility in their organisations consequently are of an *ad hoc* nature, rather than forming a comprehensive, systematic and structured approach (Aaker & Mascarenhas, 1984).

There is a need for comprehensive frameworks of the theoretical and practical aspects of flexibility that will help decision makers to assess actual flexibility and assist management to create or, where necessary, destroy flexibility in response to environmental change. The first step in the development of a comprehensive framework is to clarify and define the ambivalent phenomenon of flexibility in business organisations. Such clarification, together with a demarcation of the study field can then be used to refine the phenomenon of flexibility into a construct which can serve as a basis for developing a framework (refer to figure 1.1).

6.3 Definition of flexibility

According to Puxty (1993), a definition defines the space within which a more detailed analysis takes place and in doing so, excludes other spaces but without creating a wholly unique space for itself. As the term flexibility is often used in the literature to describe a range of conditions, qualities and activities in organisations, it is necessary to define it for purposes of this thesis. Only then can the space and focus within which a more detailed analysis of the construct can commence, be identified.

In the *Third International Dictionary* (Webster, 1971, p.869) the adjective “flexible” is defined as being –

> “characterised by a ready capability for modification or change, by plasticity, pliancy, variability and often by consequent adaptability to new situations”.

The World Book Dictionary (Barnhart & Barnhart, 1986, p.816) defines the adjective “flexible” as being “easily adapted to fit various conditions”, and the noun “flexibility” as “having a flexible quality”.

From these definitions one may deduce that flexibility concerns the ability of people to change and adapt easily to changing circumstances. In organisations, flexibility refers to the ability of the people in the organisation, individually and collectively, to adapt to changes in the organisational environment. Volberda (1998) suggests that managers intuitively understand flexibility to mean mobility, responsiveness, agility, suppleness or lightness. This general approach in defining flexibility is however superficial for it does not encompass the complexity and intricacies or paradoxical nature of the phenomenon. To illustrate, these definitions emphasise the impact of the environment on the organisation and its ability to adapt, a perspective adopted in static contingency theory (Volberda, 1998, p.44). The dynamic interchange which takes place between the enterprise and its environment and the ability of the enterprise to influence and change its environment, a view held in dynamic contingency theory, is not considered in these rather simplistic definitions. Furthermore, the definitions concentrate on a strategy of adaptation, while Gerwin (1993) contends that other strategies for flexibility, such as redefinition, banking and reduction, exist.

A number of more comprehensive definitions of flexibility are provided in the literature in Management Theory and Accounting. The different foci of these definitions are considered briefly, before a definition of flexibility is proposed for this thesis.

6.3.1 Financing structure

Bernstein (1978, p.510) defines flexibility as the ability to raise funds, particularly in adverse capital markets. This definition focuses on the *financing structure* of the organisation. Donaldson (1971, p.7) adopted a similar approach, stating that the term flexibility is used with reference to capital structure decisions where a firm is choosing a particular mix of financing sources. While the goal is often to find the mix that minimises cost and maximises value at a point in time, few of these definitions contain a facet pertaining to uncertainty, undefined future needs and the ability of the organisation to adjust its financing structure in response to unexpected events. These definitions adopt a functional approach in defining flexibility as the ability to raise finance if unexpected events occur.

A shortcoming of such a functional approach is that it restricts flexibility to a function or area in the organisation instead of viewing it as a construct which permeates the whole organisation. A further limitation is that flexibility in particular functions may be emphasised at the cost of flexibility in the whole enterprise while the interaction between functions and its impact on flexibility may be overlooked.

6.3.2 Balancing of cash flows

The FASB (1984) uses the term "financial flexibility" in its accounting standards to highlight the *balancing of cash flows*. Financial flexibility is viewed as the ability of an entity to alter the amounts and timing of cash flows in order to meet unexpected needs and opportunities. This definition also adopts a functional approach in that the management of the cash function forms the basis of the definition. In an earlier Discussion Memorandum, *Reporting funds flows, liquidity and financial flexibility* (FASB, 1980b, p.i), financial flexibility was identified as

> "...a measure of the adaptability of a business. The need for adaptability may be offensive or defensive. A business may need financial flexibility to take advantage of an unexpected new investment

> opportunity or to survive a crisis resulting from a change in operating conditions".

In this definition of the FASB, the focus is on the ability of a company to access cash quickly to finance net cash outflows or invest net cash inflows. It thus focuses on one resource as a means of creating flexibility. A financially flexible business will typically have a large inflow of cash from operations, large unused borrowing capabilities, or assets that can be realised quickly in significant amounts (FASB, 1980b). In its Exposure Draft the AICPA (1993, p.56) provides a similar albeit narrower definition of financial flexibility. Financial flexibility is defined as the *attribute* of an entity which gives it the ability to take action that will offset or eliminate an excess of required and expected cash payments over its cash resources. This definition focuses on the cash payments/threat or defensive side to the exclusion of the cash receipts/opportunity or offensive side.

Heath (1978, p.20) also uses the balancing of cash receipts and payments as the basis for his definition of flexibility. He describes a financially flexible company as one that can take corrective action that will eliminate an excess of required cash payments over expected cash receipts quickly and with minor adverse effect on its present and future earnings or on the market value of its stock. Again, the emphasis is on dealing with unexpected cash shortages rather than on cash surpluses. These definitions do not recognise that cash is only one of the resources of the organisation and that flexibility may also be created by means of other resources. They limit the strategic implications to adaptability and overlook other possible strategic uses of flexibility.

6.3.3 Human perspective

Other definitions emphasise the human aspect of flexibility. Flexibility in an organisation is seen to exist in the people in the organisation. Gabor (1969) states that flexible organisations result from flexible individuals and almost 30 years later Pasmore (1994) says that in the final analysis one must admit that it is not organisations that are flexible or inflexible, but only the people in them. Improving flexibility in organisations starts with the recognition that organisational change and human change are one and the same and the realisation that humans are the drivers of change in organisations. This implies that in order to achieve flexibility not only structures, systems and procedure need to be changed, but also behaviours and mind sets. People in organisations need not act only as drivers of change, they can also act as opponents to change and flexibility through an intricate network of defence routines. These defence routines can be addressed by creating an awareness of one's own and other people's routines and by creating a positive view of flexibility and change through participation and ownership (see Argyris, 1985).

The human perspective of flexibility can be classified as an actor approach to the definition in that the roles, personalities and traits of different people involved in the organisation are emphasised (Volberda, 1998, p.3). The problem with this approach is that there is no consensus in the literature as to what the flexibility trait of individuals entails. These definitions also do not recognise that an organisation can be structured and managed in a manner that fosters and rewards flexibility in employees.

6.3.4 Customer satisfaction

Johnson (1992) defines flexibility from the perspective of customer satisfaction, by adopting a functional perspective and identifying the concept of flexibility as producing immediately or within a period that satisfies the customer, exactly what the customer requests. He concedes, however, that there is a human aspect to flexibility, as is evidenced by his statement that flexibility is in the long run achieved only by changing lifestyles and ways of thinking.

Harrigan (1985) uses the term strategic flexibility to define flexibility from a somewhat broader perspective, namely a market perspective. Strategic flexibility refers to a firm's ability to reposition itself in markets, change its game plan or dismantle its current strategies. Eppink (1978) uses the term competitive flexibility and defines it as the ability of the enterprise to react to competitive changes caused by a major transformation of the market position, through the introduction of a new product or the entry of new competition.

These definitions are all based on a functional approach in that they focus on the sales and marketing function of the organisation, to the exclusion of other functions.

6.3.5 Operating perspective

Trigeorgis (1993) also views flexibility from an operating perspective. He defines it as the ability of management to alter its operating strategy in order to capitalise on favourable future opportunities or to mitigate losses. Management may choose to defer, expand, contract, abandon or otherwise alter a project at different stages during its useful operating life. Kulatilaka and Marks (1988) state that one of the significant advantages of flexibility is that it provides the production process with an ability to modify itself in the face of uncertainty. Kulatilaka (1993) uses the term “operating flexibility” to define the ability of managers to revise operating decisions in response to economic conditions. This includes choices such as switching from the use of machine A to machine B. He notes that the importance of such operating options is critical when the environment is highly volatile and technology is flexible, thus permitting managerial intervention at little cost.

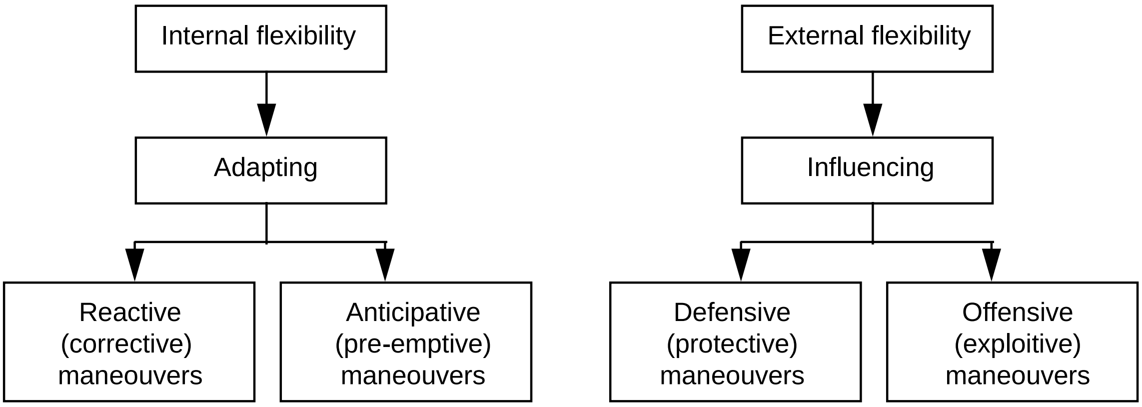
These definitions are also based on a functional perspective, namely one which emphasises the production function of the organisation.

6.3.6 Other perspectives

Further definitions of flexibility, combining elements of the above perspectives, are proposed by Ansoff (1988), Eppink (1978), Kanter (1982), Volberda (1998) and Donaldson (1971). According to Ansoff (1988, p.42) flexibility can be measured by two proxy objectives: external flexibility namely by means of a diversified pattern of product-market investments, and internal flexibility by means of liquidity of resources.

Volberda (1998, p.93) holds a somewhat different perspective (figure 6.1) in which internal flexibility is viewed as the capacity of organisations to adapt to the demands of the environment, while external flexibility is the capacity of organisations to influence their environment and thereby reduce their vulnerability. This definition thus includes two strategies, on the one hand of adaptation to the environment and on the other of influencing the environment.

Figure 6.1 : Distinction between internal and external flexibility



Source: Volberda, H. W. (1998) *Building the flexible firm: how to remain competitive*, New York: Oxford University Press, p.93.

Kanter (1982, p.197) suggests that flexibility is an organisational rather than a pure individual variable and that organisational conditions such as structure and culture can be used to create and stimulate flexibility. Eppink (1978, p.42) views flexibility as a characteristic of an organisation that makes it less vulnerable to unforeseen external changes or puts it in a better position to respond successfully to such a change. Donaldson (1971, p.8) uses a broader term, namely "financial mobility", which he defines as

> "… the capacity to redirect the use of financial resources in a manner consistent with the evolving goals of management as it responds to new information about the company and its environment".

In his definition the dynamic open system interaction between the organisation and its environment is identified and flexibility is linked to strategic goals of management. The definition is however restricted to financial resources and focuses on the capabilities of management to the exclusion of organisational conditions. Volberda (1998, p.100) includes both these aspects in his definition of flexibility as the degree to which an organisation has a variety of managerial capabilities and speed at which these can be activated, to increase the control capacity of management and improve the controllability of the organisation. This definition concentrates the elements necessary for the implementation of flexibility.

6.3.7 Proposed definition

The wide and often confusing use of the term flexibility in the literature warrants a clarification of its meaning. The above definitions all tend to concentrate only on certain aspects of flexibility, such as resources or functions of the organisation. Flexibility is, however, a multidimentional and complex term. For the purpose of this thesis a broad definition of the term which includes its strategic, operative, administrative and behavioural aspects and which emphasises that the creation of flexibility in organisations is a continuous, holistic and integrated process initiated and maintained by management is required.

The definition of Donaldson (1971) for financial mobility is used as a point of departure for the development of a more comprehensive definition that meets the aforementioned objective, as follows:

- The term “financial mobility” is replaced by the broader construct of “flexibility”;
- Flexibility is recognised as being a process, implying that it is continuous and regular feedback is necessary;
- The reference to capacity is broadened by adding more specific terms, namely awareness, responsiveness, willingness and ability which provide a more comprehensive description;
- The words “to take action” are added;
- The verb “redirect” is replaced by “reposition” to emphasise the interaction between the organisation and the environment;
- The reference to financial resources is extended to include all resources and functions;
- The reference to goals is extended to include vision and strategy;
- The words proactively or reactively are added to incorporate the dynamic interaction between the organisation on the environment.

- "New information" is linked to foreseen change as well as unforeseen change; and
- The restrictive term "company" is replaced by the broader term "organisation".

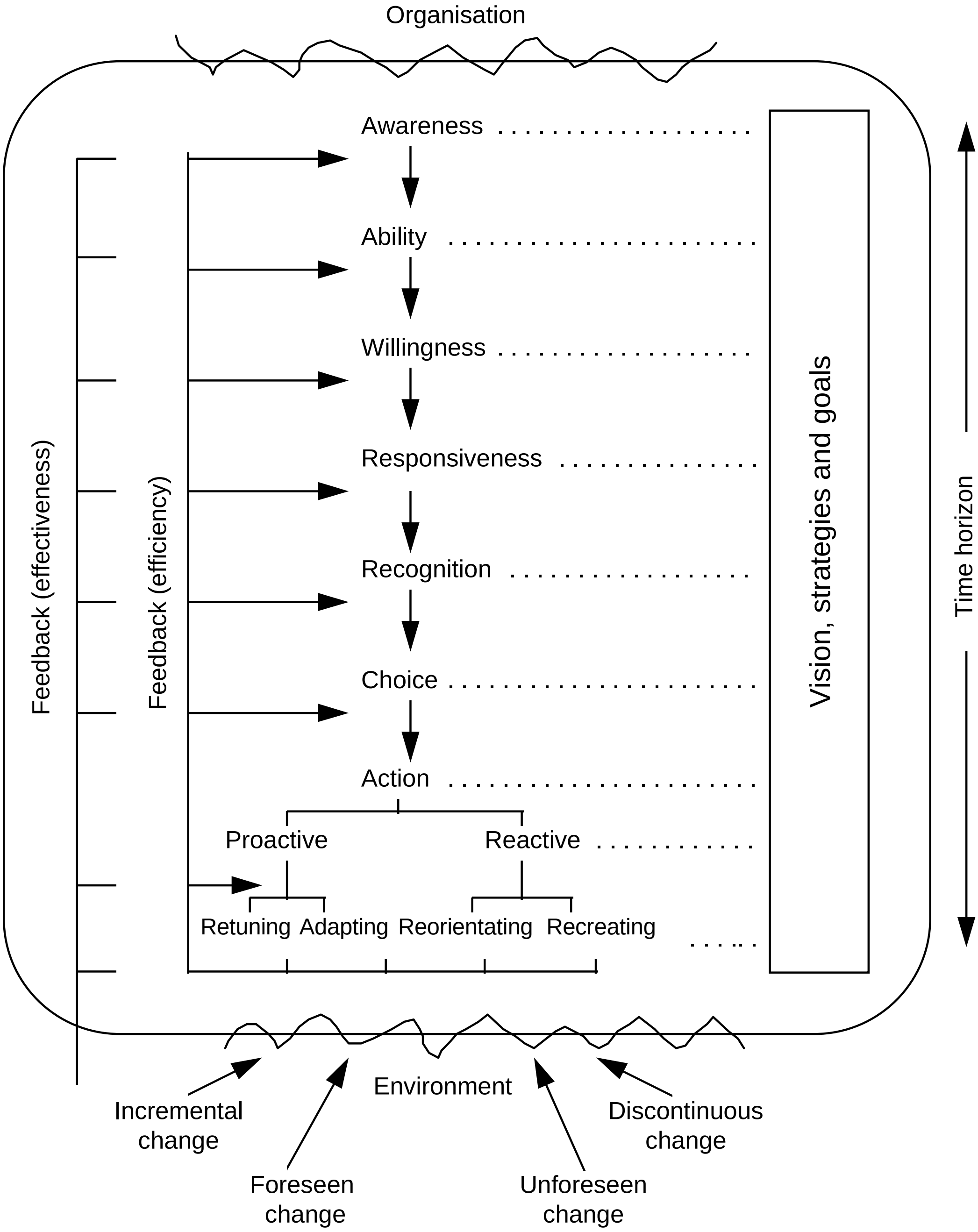
The amended definition of flexibility that is used in this thesis is as follows:

> Flexibility is the process of being aware, responsive, willing and able to take action to reposition the resources and functions of the organisation in a manner consistent with the evolving vision, strategies and goals of management as they respond proactively or reactively to new information on foreseen and unforeseen change in the organisation and its environment.

The definition encompasses the narrower definitions from operating, financial, strategic, marketing, manufacturing and behavioural perspectives. It is based on a open system perspective of a dynamic relationship between the organisation and its environment. It also incorporates Volberda's contention (1998, p.3) that flexibility has technical, managerial, organisational and human resource implications. In the classification framework proposed in section 6.5 of this chapter, the different aspects of flexibility are developed further.

The above definition also illustrates the steps in the process of creating flexibility in organisations, depicted diagrammatically in the flexibility chain in figure 6.2.

Figure 6.2 : The flexibility chain



Source: Own observation.

The flexibility chain is activated once an awareness of the benefits to individuals and organisations of being flexible in a volatile environment is created. To support the awareness, the ability to be flexible and to handle change should be created in individuals through continuous learning and training and in the organisation through its structure, culture and management style. A willingness to become flexible and to deal with change is created through a change in attitude towards volatility and uncertainty and by addressing existing defensive routines of individuals and groups within the organisation. As a result of the ability and willingness to be flexible, supported further with rewards such as incentive schemes, the responsiveness of individuals and the organisation increase.

The environment and organisation will continuously be screened for change of either an incremental or discontinuous nature. The next link is to recognise changes that should be selected for further investigation. Once these changes have been selected, a managerial choice is made from among the variety of options for repositioning the organisation. The choice results in corrective action being taken. Depending on the stability or volatility of the environment, the nature of change, (incremental/discontinuous, foreseen/unforeseen) and whether management action is proactive or reactive, the organisation will need to retune, readapt, reorientate or recreate itself. Reorientation and recreation will result in fundamental change to the organisational structure, culture, vision and strategy. Retuning and readapting requires repositioning within the current structure, culture, vision and strategy (Nadler & Tushman, 1995).

All the links in the chain are driven by the vision, strategy and goals of the organisation, as determined by management (Gerwin, 1993). The vision and strategy will evolve but will remain fairly constant in cases where the change is incremental and the actions are aimed at retuning or readapting. In cases where the actions are aimed at reorientation or recreation, the vision and strategy may require fundamental change.

The flexibility chain represents a process of continuous improvement that is adjusted through feedback – internal feedback on the efficiency of the process and external feedback on its effectiveness. The process is constrained by the time horizon within which it needs to be completed. The change process may be discrete or continuous and the time horizon of the process may be short term, medium term or long term (Upton, 1994). Competitive advantage arises when the actions of retuning, readaptation, reorientation or recreation take place ahead of those of competitors

(Aaker & Mascarenhas, 1984). Four strategic aspects which may act also as constraints in the flexibility process, are introduced later in the chapter.

6.4 Relationships with flexibility

The construct of flexibility in the organisation can be understood further through its relationships with other concepts. Therefore the relationship of flexibility to change, survival, management responsibility and choice, organisational conditions, competitive strategy, risk and return, strategy, resource allocation and innovation are addressed in this section.

6.4.1 Change

The nature, predictability and pace of change in the environment and organisation influences the levels of flexibility that should be created and maintained by management. Ackoff (1981) comments that one cannot deal with change effectively unless one understands its nature. The nature of change was addressed in chapter 2. Nadler and Tushman (1995) identify two types of change, namely incremental and discontinuous change. A further distinction can be made between foreseen and unforeseen change (Volberda, 1998). During times of instability with high levels of uncertainty, discontinuous and unforeseen change require high levels of flexibility in organisations. Such flexibility enables organisations to respond quickly and effectively to rapid and unpredictable calls for repositioning. Heath (1978) confirms that the greater the volatility and uncertainty in the environment, the greater a company's need for flexibility. The nature of the change also influences flexibility in organisations, as discontinuous change requires more and different types of flexibility than incremental change. Volberda (1998, p.94) also holds the view that different types of change may require different types of flexibility.

Flexibility can be viewed as a function of change and uncertainty. The faster the pace of change, the more extreme its nature and the more unpredictable it is, the greater the necessity to plan for, manage and sustain high levels of the appropriate type of flexibility. Creating and sustaining such levels of flexibility is a continuous process that entails scanning the environment, creating alternatives and repositioning the company in response to the rapidly changing circumstances.

From the above exposition it should be clear that levels of flexibility and types of flexibility are unlikely to remain constant, but will fluctuate as threats and opportunities assail the enterprise and decisions are made and actions are taken. At best the management of an organisation strives towards maintaining specified levels of required flexibility after considering the type of organisation and the existing and expected future volatility in its environment. In practice, this goal is elusive, because events take place that constantly change current and required flexibility levels in the organisation. Pasmore (1994) finds that companies that are flexible have usually worked at developing flexibility, generally over a long period of time, and to sustain flexibility, companies will have to continue to work at it. It should thus be regarded as a continuous process rather than an ultimate aim.

However, there is a limit to the extent of flexibility that can be created in organisations. Weick (1979) concludes that complete, unlimited flexibility makes it impossible for a company to retain a sense of identity and continuity. In other words, without stability and control it will result in chaos. In fact, Volberda (1998, p.92) suggests that a flexible organisation is inherently stable, constantly steering a course between rigidity and overreaction. The term flexibility is thus paradoxical in that the management of the organisation should create flexible capabilities which avoids rigidity on the one hand and chaos on the other. Flexibility is, therefore, balanced on a dichotomy of change and stability. It is balanced on the edge between rigidity and chaos – too much stability results in rigidity and too much change in chaos.

6.4.2 Survival

Flexibility is an essential tool for organisational survival (Toffler, 1985; Peters, 1991; Pasmore, 1994). As was noted in chapter 4, the turbulent environment increasingly threatens the continued existence of organisations. This suggests that flexible companies are more likely to survive volatile times than inflexible companies as they create strategic options to deal with unforeseen change.

The idea of survival, equilibrium and homeostasis originate from Systems Theory. The suggestion is that during unstable times where the survival of the open system is threatened, the system will adapt to its environment or influence its environment to change to ensure its continued existence. Darwin was one of the first to recognise this adaptive mechanism of open systems (Ijiri, 1967, p.163). What is often a latent instinct of an open system becomes dominant once its survival is threatened.

Flexibility provides a means whereby the management of the organisation can gain some control over the environment. Most of the definitions on flexibility refer to the adaptive capabilities that it affords organisations, but fail to mention specifically its impact on the survival capabilities of organisations. Other implications seldom addressed in definitions are the potential of a flexible organisation to proactively influence and change its environment or to preserve unused flexibility which may be used later to protect its continued existence (Gerwin, 1993).

6.4.3 Management responsibility and choice

Creating a flexible organisation requires the efforts of management: “Flexibility is perceived to be a management task” (Volberda, 1998). It depends on the ability of management to create a variety of options and capabilities in particular circumstances so that a choice may be made. It depends further on the speed with which management can access and utilise the flexibility. In responding to unexpected opportunities or threats, management will first use the current capabilities in the organisation. If these are insufficient, it will use its reserve of potential capabilities or create a new range of capabilities. According to Donaldson (1971, p.313) there should always be capacity for instant response to completely unexpected needs; and this could be extended to existing or potential flexibility. The variety of capabilities and options available to management should be aligned with the level of stability in its environment. In a relatively stable environment, less variety of options is requried than in an unstable and unpredictable environment. Aaker and Mascarenhas (1984) suggest that flexibility is the most cost effective method for coping with change and uncertainty. Management may, however, consider alternative options such as insurance, control, avoidance, prediction and contingency planning.

Flexibility is often viewed as a portfolio of put and call options held by the management of an organisation. This portfolio allows management to choose between the different options in response to new information (see Trigeorgis, 1993; Muralidhar, 1992). Quinn (1985) views flexibility as keeping options open by specifying broad performance goals and allowing for different technical approaches for achievement. A small number of options restricts effective decision making and may ultimately affect the solvency and survival of the organisation. The higher the level of flexibility, the more alternatives are generally available to management for repositioning the organisation in its environment and consequently the greater the probability that it will survive and prosper in the future. Koornhof (1988) notes that the greater the number of feasible choices available to an enterprise, the higher its flexibility. A high level of flexibility reduces the number of threats and increases the available opportunities. The number of options necessary to attain flexibility is, however, not unlimited. Furthermore, there is not necessarily a linear relationship between the volatility in the environment and the number of options. Jordan and Graves (1991) suggest that most flexibility can be obtained at a low cost because only a few options are necessary. Instead of concentrating solely on the quantity of options, the nature and feasibility of each one should also be taken into consideration.

The flexibility on an organisation is determined by the level and nature of required and current flexibility. Where there are big differences between the two levels, the organisation will struggle to deal with unexpected threats and may have to forgo favourable opportunities. Gerwin (1993) suggests that there are actually three types of flexibility – actual, required and potential. Actual flexibility (a) arises from the use of certain resources and capabilities and is based on experience. Required flexibility (r) is the flexibility target identified by management after scanning the environment and considering company strategy. Potential flexibility (p) indicates the flexibility possible within the existing organisational design. Inappropriate amounts of flexibility are revealed by discrepancies between the three types. When $a > r$, the level of p is not relevant unless the organisation has excessive flexibility and is approaching entropy or it is "banked" for future use. When $r > a$, management should utilise more potential capabilities (p). If $r > a$ and p, management should either attempt to influence the environment to lower the required flexibility, or increase the potential flexibility by redesigning the organisation (Volberda, 1998, p.95). Therefore (p) can therefore, be divided into existing potential flexibility or static flexibility and redesigned potential flexibility or dynamic flexibility (Zelenovic, 1982). It is the responsibility of management to continuously balance the required, actual and static and dynamic potential flexibility.

6.4.4 Organisational conditions

The more unstable and unpredictable the task and general environment of an organisation, the more flexible the organisation should become (Thompson, 1967; Lawrence & Lorsch, 1967). Flexibility in the organisation is created through a flexible organic structure (Peters, 1991; Drucker, 1988), the creation of an organisational culture which supports flexibility (Johnson, 1992; Stacey, 1992a) and the efficient use of technology in manufacturing and information systems (Zelenovic, 1982; Jaikumar, 1986). Volberda (1998, p.124) classifies organisational conditions into technology, culture and structure according to their potential for creating or destroying flexibility. Routine technology restricts the potential for flexibility, whereas non-routine technology enhances flexibility (p.125). Mechanistic organisational structures limit flexibility because of its established planning and control systems, while an organic structure enhances flexibility through rudimentary and flexible planning and control systems (p.137). Finally, the existing idea system found in a conservative culture restricts flexibility while an innovative idea system enhances the potential for flexibility (p.165).

The level and types of flexibility in an organisation does not remain static. Instead the flexible enterprise constantly realigns itself and its need for flexibility to the changing demands of its environment. Levels of flexibility fluctuate not only within organisations, but also among companies, industries and countries. Attaining flexibility in big firms is not easy (Peters, 1991) and a large company may find it more difficult to create high levels of flexibility than a small company. In small firms the cost structure for example may be changed faster and more easily than in big firms. The aim of achieving higher levels of flexibility is one of the reasons for the move towards smaller firms through unbundling and refocusing. Hammer and Champy

(1993) contend that recent efforts of business process re-engineering in many large corporations are directed primarily at enlarging the flexibility potential of these organisations. The level of maturity of an organisation or an industry may also influence the levels of flexibility. Young and aggressively growing companies or industries require higher levels of flexibility to exploit new opportunities and support rapid growth. More mature companies and industries require lower levels of flexibility.

6.4.5 Competitive advantage

Flexibility provides a means of gaining competitive advantage in an unstable environment.

The level and type of required, actual and potential flexibility are determined by competitors. This implies that the organisation needs to examine and analyse competitors and their flexibility on a continual basis. The flexible organisation also creates competitive advantage through speed and surprise. Speed refers to the comparatively faster evolution of the company's products, services and ways of doing business than that of its competitions (Pasmore, 1994). The organisation becomes an industry leader and remains in a leadership position by virtue of its ability to adapt quickly and efficiently.

The nature of environmental changes as well as the profile of competitors, influences the time frame within which the flexibility process should be completed, viz. in the short, medium or long term. Evans (1991) suggests that these different time frames may call for different types of flexibility. Surprise creates competitive advantage in that the flexible organisation constantly screens the environment and is able to identify opportunities such as new products, markets, research and cost effective manufacturing techniques ahead of its competitors. A flexible organisation can also introduce the element of surprise by using its flexibility to influence the environment and create more uncertainties for its rivals so as to establish competitive advantage (Gerwin, 1993). Pasmore (1994) maintains that to remain an industry leader the other person, the organisation and the country have to be out-invented, out-invested and out-manoeuvred. Flexibility is thus an important strategic tool that management can use to create and sustain competitive advantage.

6.4.6 Risk and return

There is an inverse relationship between flexibility and risk (Koornhof, 1988). The lower the flexibility of an organisation the higher the level of risk, although a linear relationship may not necessarily exist. To illustrate, Everingham and Hopkins (1982) mention that an enterprise that has fully utilised its borrowing capacity in capital intensive projects may achieve extremely high rates of return but at the expense of sacrificing its financial flexibility and increasing its risk profile. This relationship applies not only to financial flexibility but to all types. An inflexible firm is a vulnerable firm. This vulnerability may, for example, arise from reliance on a limited number of suppliers, distributors, customers, products or services. However, there is a limit to the relationship between flexibility and risk. Excessive flexibility may result in waste, inefficiencies and declines in profitability which increase the risk profile of organisation, and may, as was stated earlier, even result in a chaotic firm (Volberda, 1998).

The perceptions about the relationship between risk and return is incomplete if the element of flexibility is not included. The relationship between risk and return is often based on historical information, on a relatively short-term view of performance, is deemed to be linear and focuses on the organisation and not the environment. These perceptions change when flexibility is included as a third element in the equation. Flexibility introduces a future-oriented, longer term perspective, which focuses on change in the environment and on relationships which are mostly non-linear in nature.

The evaluation of an enterprise's risk is important to stakeholders as the security of amongst others their investments, dividends, interest, capital growth, and continued employment, may be affected by excessive risk exposure. The risk profile of the enterprise influences the rate of return expected from the investment – the higher the perceived risk, the higher the expected rate of return (Koornhof, 1988). It is important that management and other stakeholders of organisations evaluate the flexibility of an organisation. The levels of required, actual and potential flexibility provide an indication of its survival potential and level of risk and thus expected rate of return. Any decisions affecting flexibility should be made with due consideration to the impact on risk and return. The current accounting information system is the best equipped to provide the necessary information for the assessment of the impact of flexibility on risk and return to stakeholders.

6.4.7 Strategy

There is a close relationship between strategy, flexibility and change. Change should be approached in a way that preserves flexibility in organisations, so as to accommodate future change (Pasmore, 1994). Any decisions affecting flexibility should be made within the parameters of strategy. Ansoff (1988) contends that strategy acts as a constraint to flexibility. Thus the nature of the flexibility created in an organisation is determined by its strategy.

However, there is also a continuous interaction between flexibility and strategy as illustrated in the flexibility chain in figure 6.2. Reichwald and Behrbohm (in Volberda, 1998) sees flexibility rather as a means of achieving strategy by compensating for strategy deviating effects or taking advantage of the strategy amplifying effects of possible events. Therefore management should consider the impact that the development of new company strategy will have on the actual and potential levels of flexibility. Required flexibility levels are based on existing strategy and an analysis of the environmental change and uncertainties (Gerwin, 1993). This interaction between strategy and flexibility may be illustrated by the following examples:

- If a company develops a new strategy, it should determine its current and potential level of flexibility, re-establish the required level and then assess the impact that the new strategy may have on current and potential levels. The attainment of specified levels and types of flexibility may even form part of the new strategy.
- If faced by an adverse event which requires a decision between a portfolio of options (the result of flexibility), the options considered should be in line with current strategy (Ansoff, 1988). Where the survival of the company is severely

threatened, however, this constraint will fall away and decisions will be taken to preserve the existence of the company rather than to follow its current strategy.

Quinn (1985) recognises that flexibility may impact on the redefinition of strategies, especially in unstable times. Flexible organisations will redefine strategy in such environments to create more flexibility and therefore better strategic options so that it obtains a more appropriate fit or alignment to its task environment (Sanchez, 1993).

6.4.8 Resource allocation

In several definitions flexibility is viewed as arising from resources which may be redeployed, coupled with the ability of management to apply these resources to utilise opportunities or avert threats. Donaldson (1971) suggests that the resources under the control of management which can be used to create flexibility, should be assessed in terms of

- their magnitude;
- their conditions of availability if any;
- the certainty of their availability with a given time horizon; and
- the required lead time to activate the resource.

The following aspects should also be taken into consideration:

- The costs related to utilising the resource such as selling, installation and transaction costs;
- The level of disruption to the organisation in utilising or redirecting the resources; and
- The impact on the competitive position of the company as well as on current levels of flexibility.

Quinn (1985) suggests that three activities are essential from a limited resources perspective:

- The organisation establishes a horizon scanning activity to identify probable future threats and opportunities.
- The organisation creates sufficient resource buffers.
- The organisation develops and positions activities to drive the action at the current moment.

Aaker and Mascarenhas (1984) recognise as methods of increasing flexibility the reduction of existing commitments to resources as well as the investment in under-utilised resources, to create potential flexibility.

In using existing or potential resources to create flexibility, the management develops a priority list of resources to be utilised in response to different unexpected events scenarios. A priority list may form part of a more comprehensive plan of action in responding to different future opportunities and threats (Donaldson, 1971).

Flexibility impacts on scarce resource allocation decisions in especially unstable business environments. Muralidhar (1992) states that it is clear that having flexibility is desirable in the face of future uncertainty and that investing in flexibility is a resource allocation decision. This view is supported by Hambrick (in Harrigan, 1985). He sees the purpose of strategy as the balancing of commitments on the one hand

and resource flexibility on the other. This balance is influenced by the nature and predictability of change in the environment.

6.4.9 Innovation

The factors of innovation, flexibility and change have a mutual influence on each other. If change is regarded as the driver of innovation, flexibility is the facilitator. Volberda (1998) comments that innovation cannot be achieved without some kind of change. However, every change results in innovation: Flexibility is a necessary but not sufficient condition for innovation, because it is driven by change and accommodated by flexibility. This suggests that flexible companies are better situated to foster innovation than inflexible companies. Kanter (1982) notes that innovations are more likely to flourish when organisational conditions allow flexibility.

Two types of flexibility are identified in relation to innovation. The first type creates a repertoire of routine designed to exploit opportunities and results in incremental innovation. The second type abandons existing routines to create new opportunities and results in radical innovation (Volberda, 1998, p.73). The type of innovation required and the concomitant type of flexibility called for are determined by the relative stability/volatility in the organisation and its environment.

6.5 A classification framework for flexibility

From the previous section it is clear that a wide variety of meanings are attached to the term “flexibility”. The definition of flexibility adopted for purposes of this thesis is broad so as to encompass the different aspects and types of flexibility. A classification framework of the different focuses of flexibility is therefore warranted to clarify and emphasise the aspects of the definition and serve as a guideline to management, employees and accountants in designing a flexible organisation.

In developing any classification framework, the purpose of classification should be considered. In this regard, Hayakawa (1964, pp.215,217) observed:

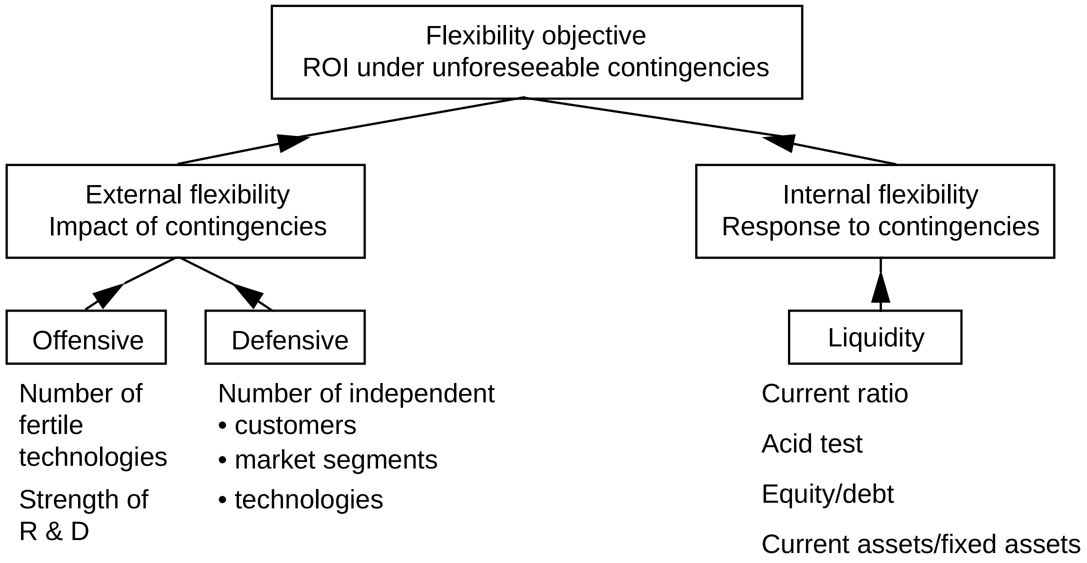
> "What we call things and where we draw the line between one class of things and another depend upon the interest we have and the purpose of the classification. Classification is not a matter of identifying essences as is widely believed. It is simply a reflection of social convenience and necessity – and different necessities are always producing different classifications."

The purpose of a classification framework for the construct of flexibility is to identify how flexibility can be created, implemented, utilised and measured in the organisation.

6.5.1 Literature survey

A number of *classification frameworks* on flexibility are proposed in the literature. Different bases can be used to develop a comprehensive classification framework of flexibility. Ansoff (1988, p.42) bases his framework on the relationship which exists between the organisation and the environment. He suggests that flexibility be classified as external flexibility if achieved through a diversified pattern of product–market investments and as internal flexibility if it concerns liquidity of the firm's resources. This is the traditional yardstick of internal flexibility. *Internal flexibility* occurs where the business seeks to create a cushion against catastrophe. Through internal flexibility management attempts to control the environment with under-utilised assets or "slack". This represents a passive rather than an active approach to the creation of flexibility. *External* flexibility is achieved through product-market postures that are sufficiently diversified to minimise the effect of a catastrophe and/or to put the firm into areas in which it can benefit from likely breakthroughs. External flexibility is subdivided into defensive flexibility (averting catastrophe) and aggressive flexibility (benefiting from breakthroughs). In volatile times more value is attached to aggressive flexibility. The Ansoff classification, based on the relationship existing between the organisation and its environment, is illustrated in figure 6.3.

Figure 6.3 : Hierarchy of the flexibility objective



Source: Ansoff, H. I. (1988) *The new corporate strategy*, New York: John Wiley, p.44.

The liquidity ratios suggested in figure 6.3 have become dated. Research has shown that the current and acid test ratios are poor indicators of liquidity and that ratios on cash flows and business cycles are more reliable.

Trigeorgis (1993) bases his classification framework on an actor approach, that is the capabilities and choices available to the management (actors) of the organisation in response to change. Flexibility is classified in terms of the real options available to management in response to future threats and opportunities and the seven categories he identifies are illustrated in figure 6.4.

Figure 6.4 Options of flexibility

Category	Description
Option to defer	Management holds a lease on (or an option to buy) valuable land or resources. It can wait (*x* years) to see if output prices justify constructing a building or plant, or developing a field.
Time to build option (staged investment)	Staging investment as a series of outlays creates the option to abandon the enterprise in midstream if new information is unfavourable. Each stage can be viewed as an option on the value of subsequent stages, and valued as a compound option.
Option to alter operating scale (e.g., to expand; to contract; to shut down and restart)	If market conditions are more favourable than expected, the firm can expand the scale of production or accelerate resource utilisation. Conversely, if conditions are *less* favourable than expected, it can reduce the scale of operations. In extreme cases, production may temporarily halt and start up again.
Option to abandon	If market conditions decline severely, management can abandon current operations permanently and realise the resale value of capital equipment and other assets in secondhand markets.
Option to switch (e.g., outputs or inputs)	If prices or demand change, management can change the output mix of the facility ("product" flexibility). Alternatively, the same outputs can be produced using different types of inputs ("process" flexibility).
Growth options	An early investment (e.g. R&D, lease on undeveloped land or oil reserves, strategic acquisition, information network/infrastructure) is a prerequisite or link in a chain of interrelated projects, opening up future growth opportunities (e.g. new generation product or process, oil reserves, access to new market, strengthening of core capabilities). Such as interproject compound options.
Multiple interacting options	Real-life projects often involve a "collection" of various options, both upward-potential enhancing calls and downward-protection put options present in combination. The combined option value may differ from the sum of separate option values, i.e. they interact. They may also interact with financial flexibility options.

Source: Trigeorgis, L. (Autumn, 1993) Real options and interactions with financial flexibility. *Journal of Financial Management*, vol.22, no.3, pp.203-224.

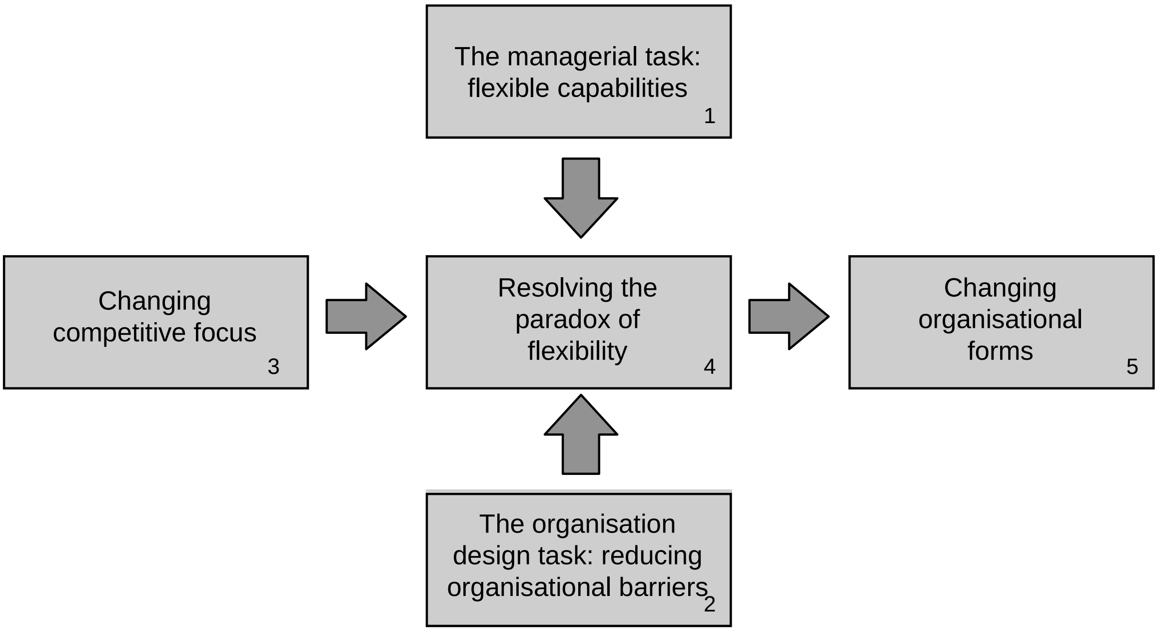
Pasmore (1994) adopts a framework based largely on the functional approach. He focuses on the main areas in which flexibility is required in an organisation during periods of rapid change, as the basis of classification. He identifies the main areas of focus for creating flexibility in an organisation as

- people;
- technology;
- work;
- thinking;
- managers; and
- organisational design.

These categories are discussed in more depth in section 6.6.

Volberda (1998) proposes a strategic framework of flexibility that focuses on the creation and implementation of flexibility in organisations. He identifies three forces that can resolve the so-called paradox of flexibility, namely management capabilities, organisational design and the effect of changing competitive forces. Management capabilities determine whether management can respond at the right time in the right way. The organisation design task establishes whether the organisation can react at the right time in the directed manner. The levels of competition determine the nature and extent of flexibility. In response to flexibility, organisations generate a variety of organisational forms. The influence of these three forces on change in organisational forms to accommodate flexibility, is illustrated in figure 6.5.

Figure 6.5 : A strategic framework of flexibility



Source: Volberda, H. W. (Autumn 1998) *Building the flexible firm: how to remain competitive*, New York: Oxford University Press, p.6.

Aaker and Mascarenhas (1984) propose a framework that is based on the approaches available to companies for the creation of flexibility. They identify six functions in which flexibility can be created, namely research and development, finance, operations, marketing, the international field and in managerial/structural areas. Three methods for increasing flexibility are identified, namely diversification, investment in underutilised resources and reducing commitment of resources to specialised use. The two dimensions are presented in a matrix form in figure 6.6.

Figure 6.6 : Illustration of approaches to increasing flexibility

	Method of increasing flexibility		
Functional area	**Diversification strengths**	**Investment in underutilised resources**	**Reducing commitment of resources to specialised use**
Research and development	Several technologies must underlie firm's position. Employ multiproduct programmes.	Maintain R&D capability that can be used when needed.	Use a policy of being a technological follower.
Finance	Maintain transferability of funds among SBUs.	Liquidity of assets. Emergency borrowing and stock-issuing power.	Use the sale and leaseback of assets. Use financing instruments that permit options at the applicable interest rate.

Operations	Produce from multiple plants in different locations.	Use general purpose manufacturing facilities and equipment. Use inventories as a buffering mechanism. Maintain excess capacity.	Avoid vertical integration. Subcontract work. Maintain an assembly operation. Use small machines. Use multiple suppliers. Use temporary workers.
Marketing	Participate in multiple product markets. Develop capability of using multiple distribution channels.	Develop “excess” customer loyalty to buffer competitive actions.	Avoid reliance on few customers. Follow product leaders. Do not build an umbrella name.
International	Maintain a presence in several countries.	Maintain duplicate production facilities for international sourcing.	Use exporting or licensing to enter foreign markets rather than local production.
Managerial/ structural	Decentralise decision making. Give subunits greater discretionary authority.	Maintain “organisational slack”. Design operating procedures to handle environmental change.	Maintain conflicting perspectives in organisation. Do not rely on few channels of communication with external environment. Use a policy of role overlapping.

Source: Aaker, D. A. & Mascarenhas, B. (Autumn, 1984) The need for strategic flexibility. *The Journal of Business Strategy*, vol.5, no.2, p.75.

6.5.2 Proposed classification framework

The purpose of this thesis is to propose a classification framework for organisations that may also serve as a basis for the development and measurement of flexibility. The categories selected should therefore be clearly identified and be capable of being measured. In the majority of the literature and research on flexibility a functional approach is adopted, which means that some function within the organisation, such as production flexibility, (Abernethy & Lillis, 1995; Johnson, 1992), financial flexibility (Donaldson, 1971; Heath, 1978) and marketing flexibility (Harrigan, 1985) is emphasised. These different functions of the organisation form a suitable basis for developing a classification framework for the production of accounting information on flexibility.

The selected categories of the classification framework proposed in this thesis are drawn from the available literature. The following six categories were identified:

- Production flexibility;
- Marketing flexibility;

- Financial flexibility;
- Informational flexibility;
- Geographical flexibility;
- Human, cultural and organisational flexibility.

Of the six selected qualities the first five are based on a functional approach while the latter category is derived from the actor approach which focuses on the traits and qualities of people and organisations that are required to be flexible. Of the six categories, the latter is the broadest and most difficult to measure.

This classification framework does not attempt to reflect fully the complexities of reality. As Hakansson (1978) puts it, all models are abstractions, representations or simplifications of some reality under study, and thus of necessity cannot capture everything about that reality without themselves becoming complete reproductions of the reality. The proposed classification scheme is thus a simplification of reality. The categories are not mutually exclusive and identified categories will interact with one another. To illustrate, production flexibility may be constrained by a lack of financial flexibility, while increased production flexibility may encourage and complement marketing flexibility. These categories of flexibility can also conflict with each other. Management is then required to obtain a balance between gaining from one category and losing from another. For example, assume a company has cash flow problems and has used all available lines of credit. It may have to sell assets, such a machinery, to raise the necessary funds. The gain in financial flexibility is at the cost of capacity and production flexibility, which may in turn have a negative influence on its marketing flexibility.

Ansari *et al.* (1997) suggest that there are three strategic aspects namely quality, cost and time on which organisations compete simultaneously in production. Quality concerns the customer's experience of the product, cost the resources expended to create the product or service, while time concerns the speed with which the products or services are supplied. Slack (1983) identifies another strategic aspect, namely range. A production unit is namely more flexible if it can handle a wider range of possibilities. These strategic aspects do not, however, apply only to a production environment but is applicable to all functions in the organisation in which flexibility is created. Flexibility arises through the ability to outperform competitors in these four aspects. The six categories and four strategic aspects and their interactions with one another are illustrated in figure 6.7.

Figure 6.7 : A classification framework for flexibility

Strategic aspects

Categories of flexibility

	Quality	Cost	Time	Range
Production				
Marketing				
Financial				
Informational				
Geographical				
Human, cultural and organisational				

Source: Own observation.

A limitation of adopting a mainly functional approach in a classification framework is that the functions may be viewed as discrete parts, functioning independently instead of being part of a whole – the organisation. The danger of such an approach is that the creation of flexibility in one function may result in an increase in the overall inflexibility of the organisation. Hamel and Prahalad (1989) for example note that creating labour flexibility by adjusting the size of the workforce, may not lead to the creation of flexibility at all, but rather serve to maintain inflexibility. It is therefore important not to view the flexibility process as being restricted to only certain aspects or functions of the organisation. Volberda (1998) contends that it is a process for integrating all the essential functions, organisational units and resources needed to manage the transition from a less flexible to more flexible organisation. The main challenge facing management is to manage the interaction of this multidimensional and complex construct in the organisation.

Each of the six identified categories are discussed in the following section and examples and diagrams are used, where applicable, to explain the focus and scope of each. The four strategic aspects of flexibility, namely quality, cost, time and range, are discussed with reference to each of the functional categories.

6.5.2.1 Production flexibility

The category "production" refers to the flexibility that an organisation can obtain through the input, processing and output of goods and services. Johnson (1992) describes this category as the production – immediately or within a period of time that satisfies the customer – of exactly what the customer requests and specifies that the process should be from scratch (not from inventory or by assembling to order). He adds that the product or service must be sold at a price similar to that of a mass producer who sells it off the shelf. A variety of methods, including production equipment, product design, work organisation, planning and control procedures, materials management and information technology, can be utlilised for the creation of production flexibility (Gerwin, 1993).

The term manufacturing flexibility is often used instead of production flexibility in the literature. Abernethy and Lillis (1995) note that manufacturing flexibility is reflected in a firm's ability to respond to market demands by switching from one product to another through co-ordinated policies and actions and a willingness or capacity to offer product variations. Parthasarthy and Sethi (1993) call manufacturing flexibility a strategy aimed at the maximisation of differentiation.

The somewhat broader term "production" rather than "manufacturing" is used in the classification framework to encompass service-oriented firms as well as the relationship with suppliers and customers. This definition is in accordance with the extended view of the enterprise. In terms of this view organisations depend on their suppliers, dealers and recyclers to meet the quality, cost and time requirements of their customers (Ansari *et al.*, 1997). The interdependencies of these groups are also referred to as a firm's value chain.

Several subcategories of production flexibility are proposed in the literature. Gerwin (1993, p.398) suggests the following seven categories:

- *Mix flexibility* which is achieved through product diversity in product lines and variations to products;
- *Changeover flexibility* is the ability to quickly substitute new products for existing ones;
- *Modification flexibility* is the ability to implement minor design changes to given products to meet customised demands;
- *Volume flexibility* permits increases or decreases in production levels in response to changes in customer demands;
- *Rerouting flexibility* is the ability to adjust the sequence of machines through which a part flows so as to meet customer due dates;
- *Material flexibility* is the ability to handle unexpected variations in inputs, such as materials from suppliers;
- *Flexibility responsiveness* is the ability of the manufacturing unit to co-ordinate and integrate these six categories, and to change flexibility types, ranges and times.

Muralidhar (1992) also identifies "*mix flexibility*", a subcategory of manufacturing flexibility, and defines it as the ability to switch from the production of one product to another with minimal stoppage time through the use of flexible technology.

Parthasarthy and Sethi (1992) identify two further subcategories of manufacturing flexibility, namely *scope* and *speed flexibility*. The former involves competing on product variety and volume flexibility, while the latter concerns frequent new product introductions and speed in innovation.

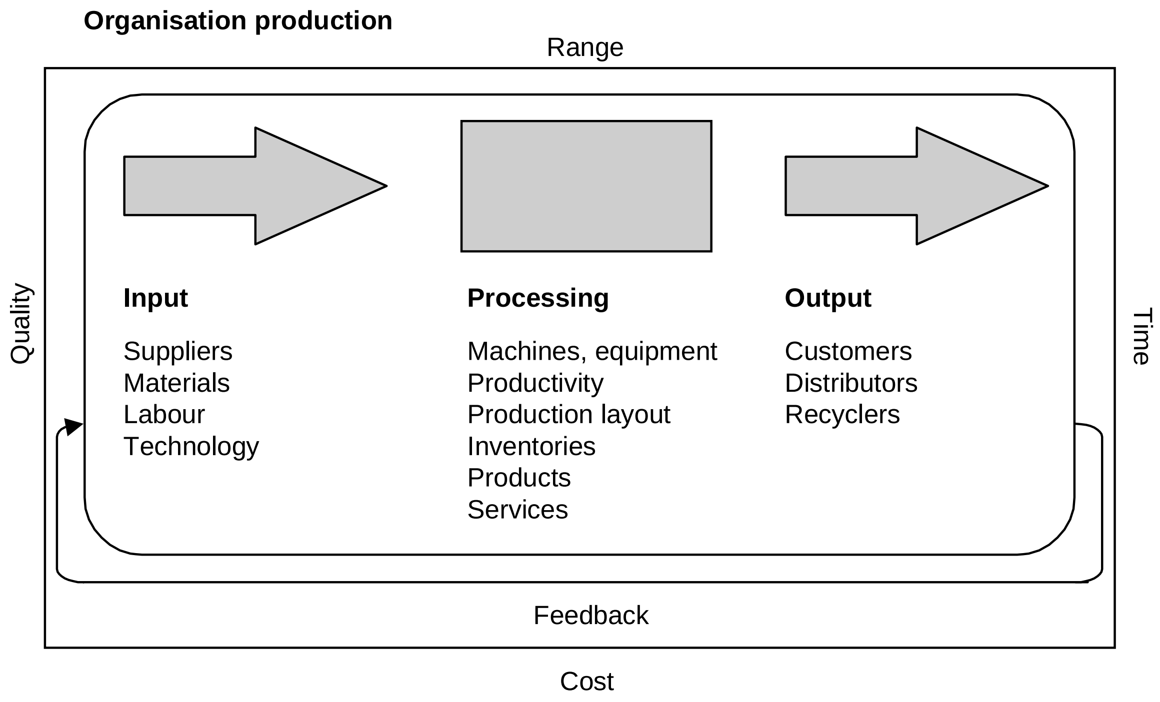
The achievement of production flexibility requires close and continuous attention to the following building blocks of the process:

- I*nput* related aspects: Selection of and relationship with suppliers, lead times to delivery, quality of materials delivery and price of materials;

- *Processing* related aspects: Manufacturing lead times, machine setup and changeover times, waste, productivity, machine capacity and usage, quality control, production line efficiency, units produced, product design, scheduling, product customisation, product mix, product maturity and use of technology;
- *Output* related aspects: Customer relations, delivery networks, customer complaints and suggestions, sales returns, quality problems, delivery lead times and pricing of products; and
- *Repositioning* of production process: This relates to feedback from customers, distributors and recyclers to reposition production process.

The production flexibility building blocks are illustrated in figure 6.8. They are based on the extended view of the production function used in the literature on value chains. As mentioned earlier, the interdependencies between the organisation, suppliers, dealers and recyclers are part of a firm's value chain and represent the idea of an expended enterprise that is involved in serving customers (Ansari *et al.*, 1997).

Figure 6.8 Production flexibility



Source: Own interpretation.

Johnson (1992) suggests that production flexibility is achieved by continuously removing constraints. Constraints are practices and assumptions that cause delay, excess and variation in processes, which in turn reduces production flexibility. The following are examples of constraints to production, the added work they cause and the procedures that may eliminate these constraints and thus improve production flexibility:

- *Setup and changeover:* Long lead times and setting up and changing over machinery create a demand for added scheduling, forecasting, buffer inventory and increase production lead times. Targeting setup and changeover times by improved use of technology, more sophisticated machinery and better training of employees result in a chain reaction that eliminates excessive work, space, time and costs. All these factors serve to increase the production flexibility of the firm.
- *Work layout:* Poor layout of systems, plants and processes create a demand for handling, transporting, work-in-progress inventory, inspection, rework, unscheduled maintenance and additional setup time. The work layout is improved by mapping the flow of work and studying the opportunities for simplifying the process with the aim of locating upstream suppliers close to downstream users. The simpler the layout the easier it is to adapt to changing circumstances and therefore the higher the production flexibility obtained by the organisation.
- *Product design:* Poor product design generates a demand for parts ordering, work in progress, rework and after sales service costs, repair and lost customers. The manufacturing process should be simplified by for example reducing the number of parts required and the subassembly and standardisation of parts. A simplified product design improves the production flexibility of the organisation as it facilitates the adaptation of products to the changing requirements of customers (Johnson, 1992; Ansari *et al*., 1997).

Production flexibility is achieved by continuously eliminating constraints that cause waste, delay, variations, excesses and additional work which in turn cause an increased use of quality, cost and time. An organisation with a high level of production flexibility will gain competitive advantage by supplying customised goods and services of a high quality, faster and more cost effectively to its customers than any of its competitors. The range of options available to a production unit in response to competitors' movements increases their production flexibility further. One production unit is more flexible than another if it can create and handle a wider range of possibilities (Gerwin, 1993).

6.5.2.2 Marketing flexibility

Marketing flexibility refers to the ability of an organisation to enter and leave markets and to position itself within existing and new markets. The aim is to achieve such levels of marketing flexibility that the organisation can compete successfully in global markets. A marketing flexible organisation gains competitive advantage as a result of its ability to change and reposition itself rapidly within competitive global markets. Prahalad and Hamel (1990) submit that such organisations are able to invent new markets quickly, enter emerging markets and dramatically shift patterns of customer choice in established markets. These organisations monitor the levels of marketing flexibility of its competitors to assess its risk of losing market share or of being replaced by a competitor, and also to identify opportunities for expansion. The more flexible the competitors in a market, the more difficult it will be for an organisation to maintain its market share. Competitive advantage in global markets stems from knowing and outperforming your competitors.

Marketing flexibility is based on two capabilities. First, the ability to enter and leave markets, to open new businesses and close others and to introduce new products and phase out others. Secondly, it refers to the ability to identify, implement and change the generic competitive strategies of the organisation. The first capability allows an organisation to enter or leave existing markets or to create new markets as customer preferences, cost barriers, compositions, attributes and competition within the industry change. Such a flexible company will exploit opportunities in the market more quickly and cost effectively than its competitors, will constantly screen the environment for opportunities and threats and will gather information on its existing and potential customers and markets and existing and future industries. The organisation will also gather information on, and analyse and monitor its competitors in both existing and potential new markets and use competitive benchmarking to improve its competitive stance.

The second capability which creates marketing flexibility, originates from the competitive strategies adopted within existing markets. Porter (1980, p.35) identifies three successful generic strategies to outperform competitors in markets.

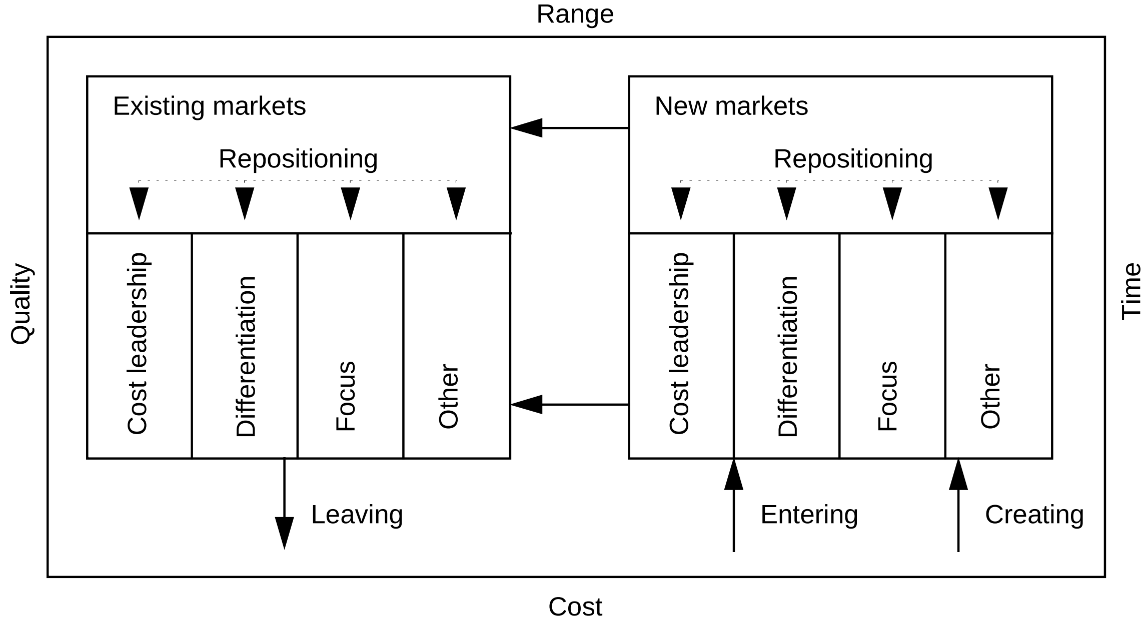
- *Overall cost leadership*: This strategy requires aggressive construction of efficient scale facilities, vigorous pursuit of cost reductions. Low cost relative to competitors become the theme of the strategy, but not at the cost of quality and service.

- *Differentiation*: The second generic strategy refers to a unique product or service which is offered by the firm and for which customers are willing to pay, such as a brand name, after sales service or special features.

- *Focus*: This is a generic strategy which entails focusing on meeting the specific needs of a particular group of buyers (Porter, 1980).

Marketing flexibility is the capability of the management of an organisation to change its generic strategies and reposition itself in response to unexpected or anticipated opportunities or threats in its markets, more quickly and cost effectively than competitors while retaining the quality of its products and services. For example, the decline and exit of an overall cost leadership firm from a market may create an opportunity for a marketing flexible company to change from a strategy of focus to a strategy of cost leadership or to combine both. Similarly, the entrance of a new competitor to the focus strategy section of the market may force an existing firm to change its strategy to differentiation or to exit the market. The wider the range of options available to the management in responding to such market changes, the more flexible it is deemed to be. The two capabilities of marketing flexibility and the four strategic aspects of flexibility are illustrated in figure 6.9.

Figure 6.9 : Marketing flexibility



Source: Own interpretation.

The lines in the above figure refer to the entrance and exit barriers or mobility barriers that have to be overcome when entering, creating, leaving or repositioning within existing or new markets. The four strategic elements of time, cost, quality and range (Ansari *et al*., 1997; Slack, 1983) also apply to marketing flexibility. A flexible organisation will outperform competitors in markets because of its ability to change its market positions more rapidly and cost effectively while maintaining high quality levels. The range of markets and the options (size, feasibility) available to management to effect these actions are functions of its level of flexibility.

The other generic strategies mentioned in figure 6.9 originate from the introduction of sophisticated technology such as Flexible Manufacturing Systems (FMS) which facilitates the successful combination of generic strategies. The use of technology can result in a substantial reduction in production costs while producing small customised runs (Jaikumar, 1986). The overall cost leadership and the differentiation strategies may for example be combined through the use of technology. Porter (1980, p.133) notes, however, that entry barriers not only protect firms in a strategic group from entry by firms outside the industry, but also provide barriers to shifting position from one strategic group to another. He calls the factors that deter such movement of firms, mobility barriers and notes that the firms in strategic groups with high mobility barriers will have greater profit potential than those in groups with lower mobility barriers. Mobility barriers therefore act as constraints to marketing flexibility.

However, Harrigan (1985, p.3) argues that barriers to entry and exit of markets represent mental baggage that managers carry with them into problem solving. They are a mind set that inhibits firms' strategic or marketing flexibility. Marketing flexibility is thus also achieved by overcoming the physical and mental constraints imposed by mobility barriers, so that the ability and willingness to move between and within markets are enhanced. This category of flexibility can be used aggressively to raise mobility barriers of a flexible company's existing markets that prevent the entrance of new competitors.

Marketing flexibility thus allows an organisation to reposition itself rapidly and cost effectively between and within markets, ahead of its competitors. This enables a flexible company to reap the benefits of new opportunities or to avert the negative impact of anticipated threats while still maintaining its quality and cost efficiency. It therefore becomes an important vehicle for competitive advantage in highly competitive global markets.

6.5.2.3 Financial flexibility

The third category, namely financial flexibility, is defined by the FASB (1984) as the ability of an enterprise to take effective actions to alter the amounts and timing of future cash flows so that it can respond to unexpected needs and opportunities. Donaldson (1971) views financial flexibility from the perspective of balancing cash flows. It can also arise from shorter business and cash flow cycles. Because of the random element in business activity, it is unlikely that the current inflow of funds resulting from past decisions and actions will be exactly equal to the current outflows. Left to behave without interference, one can expect cash flows to be frequently, if not continuously, out of balance (i.e. show an excess or shortfall) depending on the vigour of present actions compared with those of the past (Donaldson, 1971, p.49). This somewhat narrow definition tends to emphasise the balancing of cash at one point in time rather than viewing it as a continuous process of imbalance. Cash imbalances result in either cash surpluses which should be invested or cash deficits which should be financed by existing or potential lines of credit.

Financial flexibility encompasses, however, more than the balancing of cash flows. Other important aspects such as cash turnover, the tempo of raising or generating cash, the sources and applications of cash, the trends or cycles in cash management and the timing and the uncertainty of future cash flows are all aspects which influence financial flexibility. The role of accounting information system has been to report *ex post* on the balancing of these cash flows. The role of financial flexibility in an organisation is to plan for, create and prioritise sources of cash for use in responding to especially unexpected future opportunities and threats.

The broad scope of financial flexibility may be explained through its relationships with profitability, cash flow, solvency and liquidity. Corporate treasurers recognise the relationship between cash flows, liquidity and financial flexibility in that they regard liquidity as a multidimensional concept that includes both the short-term ability to meet immediate cash needs and the ability to raise cash in the intermediate and long run (FASB, 1980b, p.46). According to Heath (1978, pp.2, 23) liquidity and financial flexibility are narrower concepts that are supported by the underlying concept of solvency. He notes that profitability and solvency are also interdependent, with solvency depending on long-term profitability. However, this correlation between profitability and solvency does not necessarily exist in the short term.

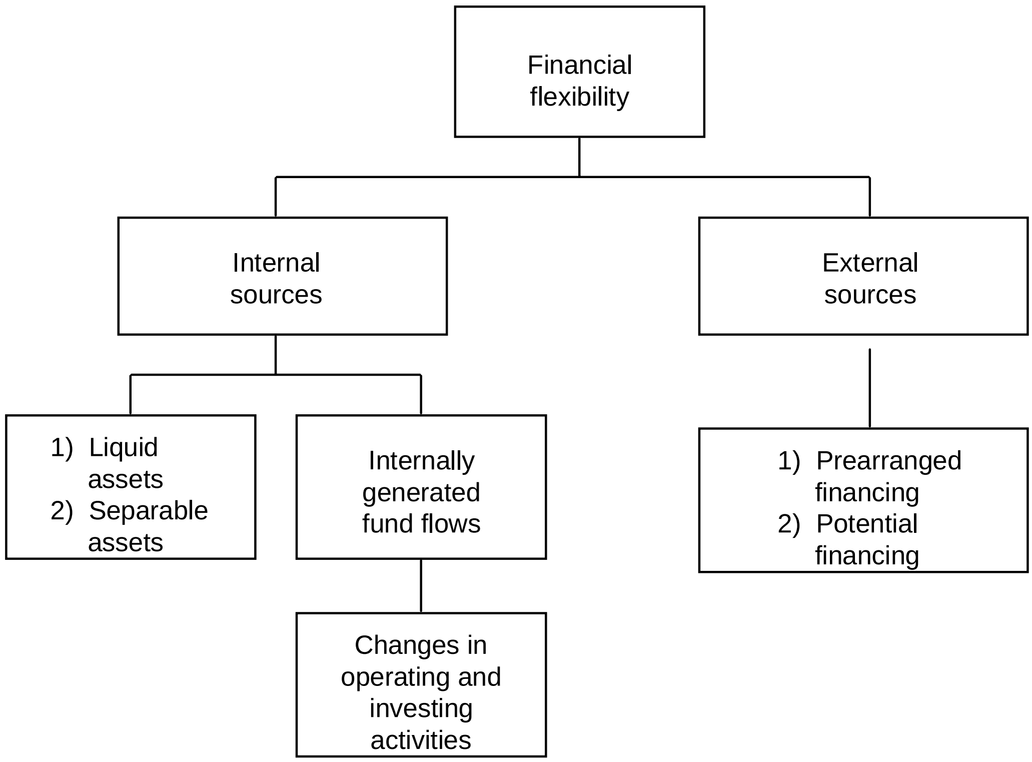
Hendriksen and Van Breda (1992, p.272) hold a different view of the relationship between solvency, liquidity and financial flexibility. Although they agree that the three concepts are related, they hold that financial flexibility is a broader concept than solvency, and solvency in turn is a broader concept than liquidity. They thus propose a hierarchical relationship with financial flexibility determining the extent of future solvency and liquidity, especially in the medium to long term. Unfortunately, Hendriksen and Van Breda do not address the relationship existing between profitability and financial flexibility. The following example will illustrate this relationship: If all resources in firm A are used optimally and to their fullest extent in theory, the wealth created in the firm will be maximised and profitability may be optimised. In practice, however, the management of firm A probably operates at suboptimum wealth creation levels as a result of the "slack" which arises because all available resources are not fully utilised (Donaldson, 1971). As unexpected cash shortfalls have serious repercussions for the firm and themselves, managers will attempt to maintain a reserve or cushion of financial resources. The nature and amount of these resources depend on managers' predictions of any potential cash flow deficiency (AICPA, 1993, p.108) as well as their perceptions of environmental volatility and their attitude to risk. This behaviour of the management of firm A shows that they are willing to earn suboptimum profits in order to gain financial flexibility by retaining unused resources to deal with future uncertainties. An inverse relationship therefore exists between profitability and financial flexibility, in that an increase in financial flexibility is often gained at the expense of profitability. The aim of management should be to maintain a healthy balance between profitability and financial flexibility, so that neither is threatened and the overall risk rate of the organisation declines.

Financial flexibility is gained from resources both in and outside the financial statements. Heath (1978, p.21) classifies the resources of financial flexibility into five categories:

- Borrowing money
  - Directly, by borrowing from banks and selling bonds, commercial paper and so forth;
  - Indirectly, by delaying payments to trade creditors, extending due dates of loans and so forth;
- Liquidating assets
  - Directly, by selling marketable securities, factoring receivables, selling (possibly combined with leaseback) plant and equipment and so forth;
  - Indirectly, by failing to replace inventory as it is sold through normal trade channels, failing to replace manufacturing assets as they are consumed in operations and so forth;
- Reducing costs;
- Reducing dividends;
- Issuing capital stock.

Similar classifications of cash resources are provided by Donaldson (1971) and Koornhof (1988). The FASB (1980b, p.109) provides a somewhat different classification by dividing the sources of financial flexibility into internal and external sources. Internal sources are those that are generated in the organisation by selling assets or generating cash flows. External sources are those arranged outside the organisation. This is illustrated in figure 6.10.

Figure 6.10 : Sources of financial flexibility



Source: FASB (1980b): Discussion Memorandum, *Reporting funds flows, liquidity and financial flexibility*, New York: the Board, pp.107-123.

This classification corresponds to the classification used in the cash flow statement in financial statements reflecting operating, investing and financing activities of enterprises.

The following are of particular importance in the use of these resources:

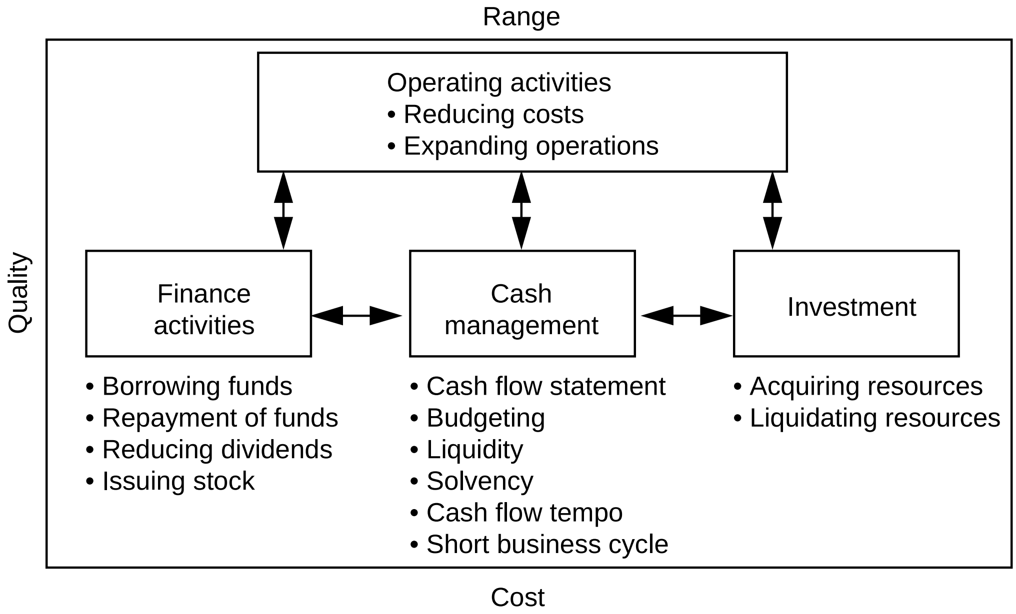
- The amounts of cash that can be generated;

- The timing of the realisation of the amounts;
- The costs attached to realising the amounts;
- The impact that the redirection of resources may have on the quality of products and services;
- The impact on the risk profile of the organisation; and
- The level of certainty that these resources will be available for realisation at the correct time in the future.

The more resources that a company has available to generate cash, the wider its range of options and the more financially flexible it is considered to be. The flexibility is not created only through the number of options available but also the feasibility of the options. Several resources, such as cash balances, appear to be a natural source of financial flexibility. In practice, however, large portions of the current cash balance of organisations is required to support working capital and is not available for the creation of financial flexibility. Specialised machinery, on the other hand, may not appear to be a ready source of cash, but demand and supply in the market may render such an asset a valuable source of cash. Alternatively the organisation may use the asset in a sale and leaseback arrangement or as security to raise finance.

Financial flexibility refers to the ability of an organisation to raise or invest cash in sufficient amounts at the correct time and in the correct amount to balance expected and unexpected cash surpluses or shortages caused by future events. The important elements for the creation of financial flexibility in organisations are illustrated in figure 6.11.

Figure 6.11 : Financial flexibility



Source: Own observation.

6.5.2.4 Informational flexibility

The category informational flexibility applies to the information in organisations, which is used in decision making. It refers to the ability of management to change the information system to meet the changing needs of users of information quickly and cost effectively without losing its quality and integrity. A flexible information system will therefore be one which compiles relevant, timeous and decision-useful information more quickly, accurately and cost effectively than the systems of competitors.

The term "flexibility" in relation to accounting information, is perceived largely in a negative sense. Standard setting bodies often oppose flexibility in reporting as it poses a threat to the application of accounting standards and may result in information that lacks comparability and consistency. Their aim is rather to harmonise, and where possible, to standardise accounting practices so that similar transactions and events are treated similarly by all enterprises. Consequently, financial reports have taken on the appearance of compliance documents rather than communication tools (AIMR, 1993, p.79). This compliance approach is in line with a closed system approach, while a communication approach adopts a more open system approach. Standardisation tends to make information systems, and in particular accounting systems, more rigid. Johnson and Kaplan (1991) suggest that Management Accounting failed to develop because it was dominated by the rigid standardisation approach of Financial Accounting. Peters (1991) argues that a fixation with financial measures contributes further to the current inflexibility of information systems.

The output of information systems and consequently their input too, should be determined by the changing needs of their users. Information systems should become more client centred if they are to become more flexible. Everyone in the organisation should constantly be thinking what information he or she needs to do the job and to make a contribution (Drucker, 1988). National and international standard setters, regulators and accountants should increase their focus and research on the changing information needs of users. Users should be encouraged to work with standard setters to increase the level of their involvement in the standard-setting process (AICPA, 1994a). The changing needs of both internal and external users can be met by one flexible information system which constantly evolves to align itself with the changing demands. The accounting information system has the infrastructure to fulfil the role, provided it becomes an open system which interacts dynamically with its environment.

The use of technology to communicate information within and outside the organisation can be used to introduce more flexibility into the process. Information software should be developed with flexibility in mind. Therefore programming should be designed to accommodate changes, alterations and improvements quickly, easily and cost effectively, while still ensuring quality of information. Organisations should invest in flexible hardware configurations, which can be adapted to their changing information needs. Pasmore (1994) says that informational design alternatives should emphasise flexibility in technology to allow for unforeseen changes in customer demands, industry developments or technological upgrades.

Unfortunately some of these information systems become so complex that they actually introduce further inflexibility into the organisation. Jaikumar (1986) notes that in using FMS, US companies designed software systems for a much greater level of flexibility than their companies were prepared to use. The greater complexity resulted in more bugs in the system, fewer people understanding the system and a general unwillingness to tinker with the system. These complex information systems were thus designed to increase informational flexibility but, in practice, resulted in a decline. In this regard, Peters (1991, p.589) finds it ironical that the need for flexibility in an increasingly complex environment requires systems to be simplified. He believes that organisations should develop simple systems that encourage participation and understanding by everyone, and support initiative taken on the front line. Organisations should furthermore measure what is important to the business and in particular shed the distracting biases of traditional cost accounting procedures.

Rigidity is also introduced into organisations through the incorrect use of technology. Instead of selecting decision-useful information, informational systems may produce an excess of information that cannot be used productively as it results in an information overload. Ernst & Young (1995) warns that although communication processes are becoming faster, more powerful and more flexible, they are also becoming increasingly fragmented. Concerns have been raised that the business world's capacity to transmit information is greater than its capacity to analyse and interpret it.

To gain informational flexibility, organisations should

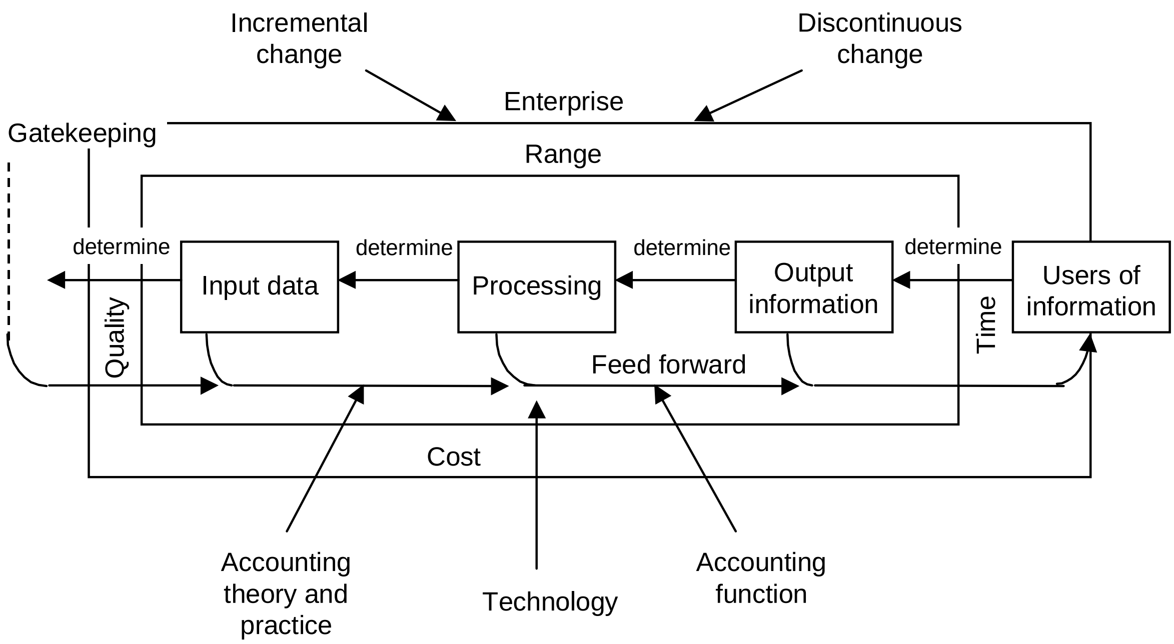
- keep systems simple:
- limit information to that which is useful;
- develop systems which can adapt to changing needs;
- be willing to experiment;
- focus on the needs of users rather than on the minimum information required by legislation and accounting statements;
- improve the communication process with users, through the use of technology;
- educate stakeholders.

The above aspects should contribute to cost effective information of a high quality being provided timeously to the correct users, as well as more quickly and efficiently than those of competitors. This should result in better informal decision making by all stakeholders. The information system should be able to supply information from a range of users and a range of decision options.

To support a flexible information system the accounting function, as the main generator of information in an organisation, should be decentralised to increase its exposure to changes in the environment. Accountants, as members of cross-functional teams, should align the information output to the needs of specialised and skilled employees. A flexible information system is supported by flexible accountants who are willing to experiment with information and are comfortable with change. A further important element of a flexible information system is to create a willingness among accountants to critically re-examine accounting practice and theory when its application results in information which does not meet the demands of its clients.

Informational flexibility in the organisation is illustrated in figure 6.12.

Figure 6.12 : Informational flexibility



Source: Own observation.

6.5.2.5 Geographical flexibility

The category of geographical flexibility refers to the flexibility available to multi-national companies that operate in more than one country. Muralidhar (1992) identifies two types of flexibility in this category:

- *Financial* flexibility, namely the ability to shift profits to favourable tax locations when tax regimes are changing; and
- *Real* flexibility, that is the ability to switch capacity utilisation to the lowest cost location when domestic costs and exchange rates are volatile.

Aaker and Mascarenhas (1984) call this type of flexibility international flexibility and identify it as the ability of enterprises to use duplicate production facilities in different countries as well as export and licensing arrangements in foreign markets to reposition themselves.

International or geographical flexibility is only available to companies that operate in more than one country. These companies can exploit asymmetries and inequities in tax regimes, factor costs and exchange rates of different countries by shifting taxable income or changing capacity utilisation between countries. It can be viewed as a type of hedge against unfavourable practices in a host country. Kogut (1985) notes that multinational firms have flexibility, which permits them to hedge against uncertainty over future exchange rates, competitive moves or government policy. A flexible company will scan the environment continuously for exploitable inequities between the countries in which the company operates. Geographical flexibility also arises from the ability of organisations to change their status in foreign countries from subsidiaries and branches to joint ventures or export or licensing arrangements (Aaker & Mascarenhas, 1984).

Muralidhar (1992) shows that the mere existence of asymmetric and changing tax rates provide a sufficient condition for a uninational firm to invest abroad, possibly even in a relatively high tax jurisdiction. By investing abroad management obtains control over the environment and in particular aspects such as tax regimes, labour practices and currencies. Through geographical flexibility it can internalise tax management, enabling it to shift part of its profits from a high tax to a low tax jurisdiction, usually by means of transfer pricing. A multinational enterprise is therefore afforded the opportunity of increasing the firm's expected value above that of an exact set of purely national firms. Investors may find that investing in multinational firms provide more value than purchasing shares in a replicating set of national firms in two countries (Muralidhar, 1992, p.20). Geographical flexibility should therefore be considered when the value of multinational firms are assessed, a practice which has not been adopted by many transactors on capital markets. It follows that many multinationals may consequently have been undervalued. It is to be expected that the greater the ability and willingness of management to move profits in the face of volatile exchange rates and adverse labour practices and tax regimes, the greater the benefit attributable to geographical flexibility.

Geographical flexibility refers to the ability of the management of a MNE to shift resources between countries with different tax regimes, factor costs and exchange regulations. By creating a portfolio of "put" and "call" options, especially in times of volatility, management can decide where to produce goods and render services and where to pay taxes, so that the overall wealth of the enterprise is enhanced. The development of geographical flexibility should obviously be based on strategic aspects of time, cost, quality and range. Moving business operations between countries should therefore be cost effective, be effected within a reasonable time span and should not affect the quality of the products and services rendered by the organisation. The greater the range of options available to management to utilise geographical flexibility, the more flexible the organisation is deemed to be.

Complexity may however, act as a constraint to the range of options resulting from geographical flexibility. The management of a multinational firm operating in a large number of countries with different lines of business may not be able to utilise its geographical flexibility fully as a result of the extent of information required and the complexity of decision making resulting from the large number of strategic options that are available.

6.5.2.6 Human, cultural and organisational flexibility

The last category is probably the most important and pervasive source of flexibility in the organisation. According to Ansari *et al*. (1997) three of the most important aspects of a good information system are the cultural, behavioural and technical attributes. The technical attribute is addressed in informational flexibility, while the behavioural and cultural attributes are addressed in this category, which may be divided into four subcategories:

- Managerial capabilities;
- Employee capabilities;
- Corporate culture; and
- Organisational structure.

These attributes have been grouped together as they are the most difficult to observe and measure from an accounting perspective. As the main purpose of this classification framework is to provide a basis for the development of information on flexibility, these categories have been combined. Here a qualitative approach is needed for the measurement of required, actual and potential levels of flexibility, as well as the speed, direction, acceleration and trends in flexibility. It is a paradoxical fact that the information which is often the most important is also the most difficult to measure. As a result, this type of soft information is usually ignored and excluded from the traditional accounting information system. Flexibility may therefore contribute towards the development and extension of the traditional accounting model.

The capabilities of management form the main building block in creating a flexible organisation. According to Volberda (1998), the speed of change in today's turbulent environment weakens the sustainability of specialised routines, and increases the importance of flexible, dynamic capabilities. Specialised routines such as regulations, plans, budgets and forecasts are appropriate in stable, fairly predictable conditions, while more dynamic capabilities are called for in volatile conditions. Specialised routines are based on management's ability to replicate tasks performed in the past while flexible capabilities require that management be equipped with a knowledge base which enables them to solve complex non-routine problems. Some of the qualities of each of the two capabilities of management are illustrated in figure 6.13.

Figure 6.13 Managerial requirements of dynamic capabilities

Specialised routines	Dynamic capabilities
• Static control	• Dynamic control
• Limited expertise	• Broad and deep knowledge base
• Low absorptive capacity for change	• High absorptive capacity for recognising change
• Fixed managerial mind sets and no experimentation	• Broad managerial mind sets and much experimentation
• Lower level learning	• Higher level learning

Source: Volberda, H. W. (1998) *Building the flexible firm: how to remain competitive*, New York: Oxford University Press, p.109.

Management, through their capabilities, drives the creation of flexibility by introducing a climate, which fosters flexibility in the organisation. Such a climate requires the development of flexible employees and a supportive corporate culture together with an organic organisational structure, which is conducive to flexibility.

The capabilities of the employees to deal with change in the organisation are a primary and important source of flexibility. An organisation is as flexible as its people. The creation of human flexibility within an organisation requires a wide range of approaches, from fostering an environment conducive to creativity, innovation and learning, to changing mind sets and thinking patterns and increasing human responsiveness to change. Johnson (1992) suggests that flexibility is created by empowering the work force, by giving people ownership of the processes in which they work and by stimulating learning and innovation. He maintains that the essence of organisational learning is the discovery of new and innovative ways to remove constraints that stand in the way of the flexible fulfilment of customer needs. Stacey (1992a) stresses that people need to change their mind sets to become more flexible. He says that we are trying to explain the messy opportunistic global competition game by using mental models which are all about order, stability, cohesion, consistency and equilibrium. People are not paying enough attention to the irregular, disorderly and changing nature of the game. People tend to react this way because it is easier and offers more security than searching in the dark for explanations which are based on disorder, irregularity, unpredictability and change (Stacey, 1992a). In developing flexible people, it is necessary to address their defensive routines (Argyris, 1985). The defensive routines applicable to change and uncertainty will probably manifest themselves against flexible capabilities as well.

Peters (1991, p.341) gives ten prescriptions to improving flexibility in people:

- Involve everyone in everything;
- Use self-managing teams;
- Listen to people and recognise achievements;
- Spend time on recruiting;
- Train and retrain;
- Provide incentive pay which is based on appropriate indicators; and
- Provide employment security by retraining and redeployment rather than retrenchment.

Flexibility should become part of corporate culture. Bate (1984) defines corporate culture as the set of beliefs and assumptions held relatively commonly throughout the organisation and which are taken for granted by its members. The more innovative the culture of the organisation is and the more willing it is to recognise and adopt change, the greater the possibilities for strategic flexibility in the organisation will be (Volberda, 1998; Johnson, 1987).

Corporate culture preserves the corporate identity. If a too flexible corporate culture is created, it may endanger the identity of the organisation. However, according to Peters and Waterman (1982) this is not really a problem, as there are two levels of culture: A flexible organisation usually has a core set of beliefs of a relatively high order and a heterogeneous set of belief at lower levels. Not all levels of corporate culture are flexible to the same extent. Instead, a constructive tension should exist between what should be flexible and can be changed, and what should be preserved.

The extent of volatility in the environment, together with management's response, which could be either reactive or proactive, will influence the corporate culture. If the change is incremental, returning and readaptation is required and the impact on especially higher order corporate culture will be limited. However, if change is discontinuous and reorientation or recreation is required, the impact on corporate culture may be profound (Nadler & Tushman, 1995). In such volatile times even the generally stable higher order culture may require radical change for the organisation to survive and in the process the organisation may experience an identity crisis.

As already mentioned, people with inflexible attitudes and mind sets inhibit the flexibility of an organisation. Organisational structure is often used as the vehicle to maintain the *status quo* while rules, lines of authority, policies and plans are used to entrench it. Pasmore (1994) contends that we need to learn not only to *think* more flexibly, we need to learn to *organise* in order to achieve it. An environment must thus be created which provides incentives to being flexible and thinking flexibly.

Organisational flexibility is created by selecting structures that facilitate and encourage flexibility. A hierarchical structure destroys organisational flexibility whereas a fractal, organic, dynamic or virtual structure develops it (Pasmore, 1994; Peters, 1991; Miles & Snow, 1986; Davidow & Malone, 1992). Parthasarthy and Sethi (1993) note that flexibility requires organisational arrangements to be functionally integrative, to ensure the structure is not static but constantly evolves in response to changes in its environment. The following are characteristics of such a structural design:

- It will tend to be non-hierarchical;
- The design should maximise freedom of movement;
- It should result in knowledge being widely shared and easily accessible;
- It should involve people with knowledge in goal setting and integration activities; and
- The structure must be designed to encourage, support and reward learning (Pasmore, 1994, p.166).

In attaining organisational flexibility the structure of the organisation will typically change from a highly structured and rigid inwardly focusing form to an evolving, flat structured outward focusing form. In the design of organisational structures, flexibility will become the operative word. The organisation should have the quality of a Calder mobile, shifting with the slightest breeze (Toffler in Pasmore, 1994).

Despite the fact that flexible management and employees form the basis for a flexible organisation, flexibility is a construct to which accountants – as employees or part of a management team – usually have not been exposed. Consequently, it is not surprising that they are not necessarily equipped to identify, measure and communicate information on flexibility.

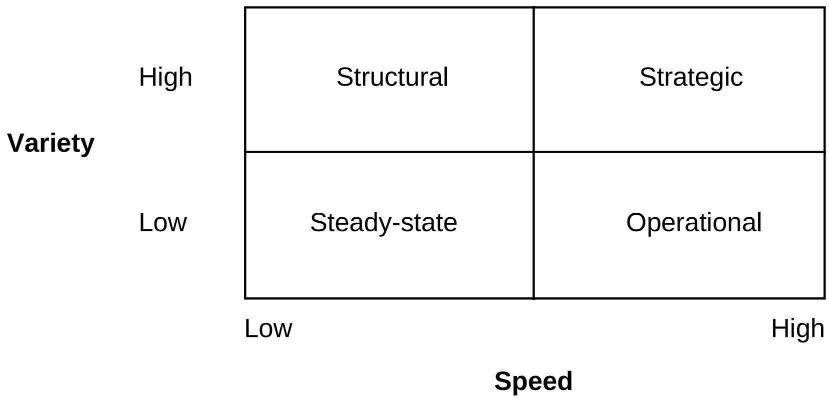
6.6 Developing a flexible organisation

The re-engineering of an organisation is often aimed at increasing its flexibility. The literature on Management Theory indicates that flexibility is an important construct for an organisation operating in a volatile environment. Although many authors refer to the usefulness of the construct and study specific aspects of it, few have attempted to draft guidelines or procedures for management in designing a flexible organisation. A number of researchers have attempted to develop frameworks for certain types of flexibility, such as manufacturing flexibility (Gerwin, 1993), financial flexibility (Donaldson, 1971), geographical flexibility (Muralidhar, 1992) and marketing flexibility (Harrigan, 1985). However, the two most comprehensive frameworks for creating flexible organisations are those proposed by Volberda (1998) and Pasmore (1994).

Volberda (1998) based his strategic and integrated approach on new developments in strategy and organisation theory, interviews with practitioners, case studies in large corporations and empirical evidence and ongoing flexibility projects in a number of large Dutch companies. The Volberda framework consists of five elements, as shown in figure 6.5.

The first requirement in designing a flexible firm is management capabilities. Management should develop a portfolio of dynamic capabilities or a flexibility mix for control of the organisation. This means that management should develop flexible manufacturing, JIT, purchasing, multisourcing, quick-response or product development capabilities (p.103). In terms of this perspective of dynamic management control, competitive change becomes a vehicle for creating order instead of destroying order (p.97). The portfolio of management capabilities should be available in sufficient variety (both as far as quality and quantity are concerned) and should be capable of being implemented with the necessary speed. Volberda (1998, p.117) suggests that management capabilities could result in the creation of four types of flexibility, as illustrated in figure 6.14.

Figure 6.14 : Types of flexibility



Source: Volberda, H. W. (1998) *Building the flexible firm: how to remain competitive*, New York: Oxford University Press, p.117.

In the case of steady-state flexibility, static procedures are used to optimise company performance. This type of flexibility is suitable in times of minor change when the speed of response is not a high priority. Operational flexibility consists of routine capabilities, which relates to the volume and mix permutations of operational activities. It provides rapid response to familiar change. Structural flexibility consists of capabilities for inducing evolutionary change in the organisational structure to suit changing conditions. In times of revolutionary change, management will need to implement structural changes to facilitate renewal. Strategic flexibility consists of capabilities related to the goals of the organisation and is the most radical type. It needs to be used when the organisation faces unfamiliar changes that have far-reaching consequences and requires a rapid response.

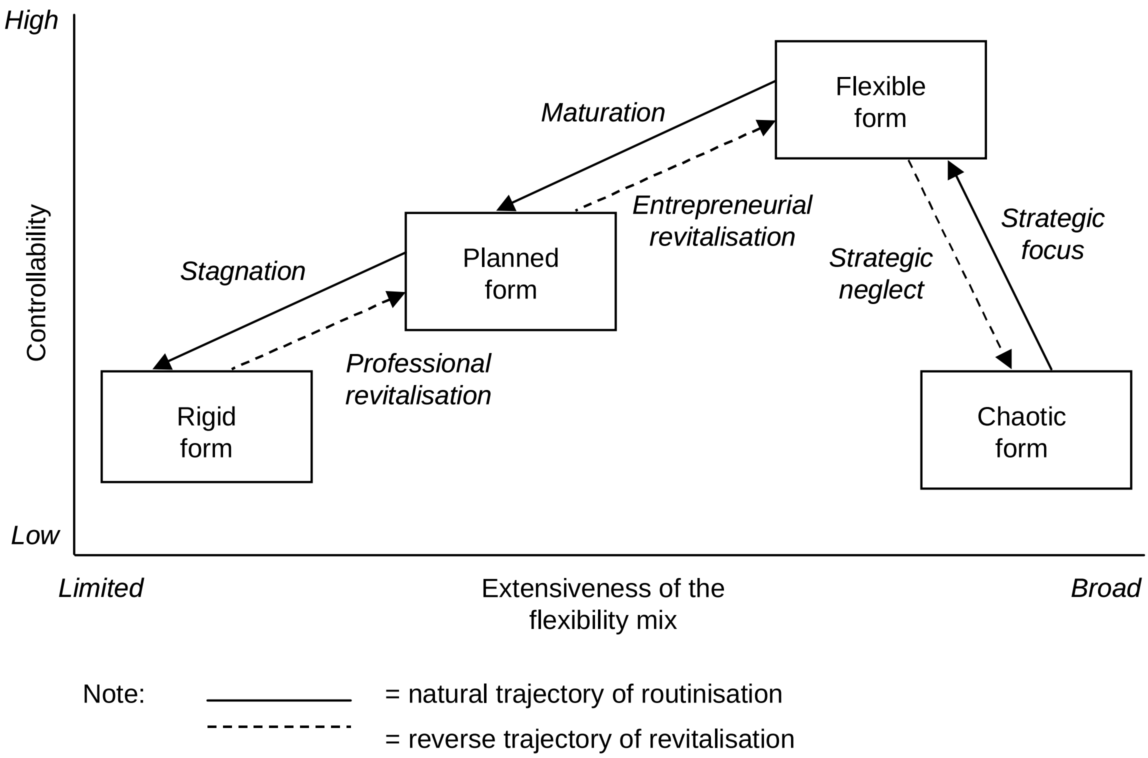
The organisational design determines the enterprise's responsiveness and controllability. Increases in the controllability of the firm might involve changes in technology, CAD, CAM or FMS structure, culture, empowerment and corporate identity programmes (p.103). The organisation should be designed to promote flexibility and support management capabilities in creating and sustaining it. Flexible organisational design may be the result of:

- technology used in operations and information systems;
- changes in the structure of the organisation from a mechanistic to an organic form; and
- corporate culture which serves to support management's capabilities to create flexibility (Volberda, 1998, p.102).

The third element refers to the impact that competitors will have on the flexibility and, therefore, the combinations of management capabilities and organisational design that are required. In other words, the level and nature of competitive forces determine the combinations of flexibility types. In more stable conditions with lower levels of competition, operational flexibility with a structured organisational design may suffice. In dynamic and competitive environments, strategic flexibility and an organic organisational structure will be more appropriate. The fourth element arises from the combination of managerial and organisation design tasks given various levels of competition. This involves the kind of matching process typically called for in the resolution of paradox (p.185). The paradox of flexibility is manifest as a tension between change which is provided by dynamic management capabilities, and preservation and control which is provided by the organisational design task. Once competition has reached a certain level it gives rise to a constructive tension between developing capabilities and preserving organisational conditions. This is also known as metaflexibility.

The fifth element arises as companies operate under different levels of competition and management uses constructive tension to combine the elements in different ways. This results in alternative flexible organisational forms. These forms reflect management's method in coping with the paradox of flexibility. The combinations are illustrated in figure 6.15.

Figure 6.15 : A typology of alternative flexible forms for coping with hypercompetition



Source: Volberda, H. W. (1998) *Building the flexible firm: how to remain competitive*, New York: Oxford University Press, pp.212, 217 & 219.

In figure 6.15 the flexibility mix refers to management capabilities while controllability refers to organisational conditions. The implication is that different organisations are exposed to different levels of competition and as a result each adopts appropriate organisational forms e.g. rigid, planned, flexible or chaotic. Each type represents a particular way of addressing the flexibility paradox of change versus preservation (Volberda, 1998, p.211). The rigid form is found in a typical bureaucratic organisation with low flexibility, prescribed procedures, a mechanistic structure and conservative culture. It is suited to stable periods and low levels of competition. The planned form has limited options and management capability and a specified fixed routine, but the organisational structure and culture are more flexible. As a result the organisation is more responsive to change than the rigid form. This form is suitable for controlling the organisation in the absence of unexpected change. The flexible form has a high flexibility mix (management capabilities) supported by structural flexibility (organisational design). Management uses dynamic capabilities to deal with unexpected change and the organic structure makes the organisation highly responsive. This form is suitable in unstable times, with of high levels of competition and unexpected changes. It allows management to maintain control over the environment while preserving the organisational identity through a constructive tension or balance between change and preservation, called the paradox of flexibility. Finally, the chaotic form has either an extensive flexibility mix or strategic flexibility, but it lacks structural flexibility or flexible organisational conditions and, as a result is uncontrollable. These organisations cannot implement change as it has no distinct technology, stable administrative structure, or basic values stemming from their organisational culture. Chaotic forms do not allow their management to gain control over the environment.

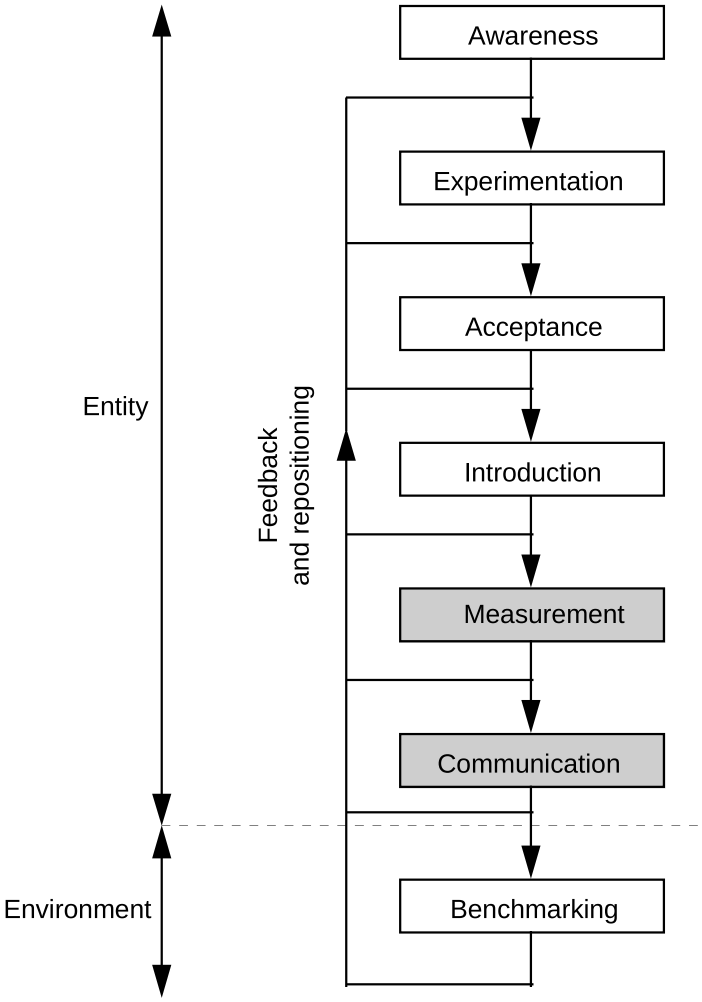
The trajectories between the forms indicate the routes available to organisations to revitalise themselves in response to escalations in competition and increases in instability. The Volberda framework is very comprehensive and provides guidance to management in designing a flexible organisation by making use of management capabilities and organisational conditions.

In designing a flexible organisation Pasmore (1994) concentrates on those factors in organisations which are amenable to flexibility. He notes that a prerequisite for the creation of a flexible organisation is that the entire system and each of its many components be changed. The *first* and foremost factor is to create flexible people who are willing to take responsibility for change. People become more flexible and willing to participate in their business when technical and social skills are well developed. The *second* factor entails the development of flexible technology, which will enable the organisation to respond to change. However, technical flexibility is not dependent solely on technology; technical flexibility is often lacking because people ignore the need for it or simply fail to incorporate flexibility into the system (p.77). The *third* factor is to create work flexibility by means of teams and by using collaboration. This factor addresses the organisational design and work allocation in the corporation, and entails flexible job descriptions and crossfunctional involvement via teams. The *fourth* factor refers to the creation of flexibility in thinking so as to enhance innovation, experimentation and research and development. Flexible thinking is supported by aspects such as the sharing of knowledge, freedom of movement, involvement of people in goalsetting and an organisational structure which encourages, supports and rewards learning. The *fifth* factor entails flexible managers and flexible management, which require changes to the leadership and decision-making process of the organisation. The situation in the environment should dictate who is best qualified to make decisions and lead. The *sixth* and last factor addresses the need for a flexible organisational structure, known as a fractal organisation design. The purpose of the fractal structural design is to create a structure, which can constantly adapt to the environment. This structure allows for maximum flexibility in what people do and learn, within the minimum framework of commonality that is needed to guide their actions towards common goals (p.232). The Pasmore framework focuses on the areas where flexibility should be created in the organisation but does not provide a comprehensive and integrated framework for balancing the flexibility in the different functions. This is a necessary condition for designing a flexible organisation.

These two frameworks on flexibility view the process from a managerial perspective and do not emphasise the importance of measuring the required, actual and potential levels and types of flexibility in an organisation.

A broader view of the development of flexibility from an accounting perspective, which also highlights the measurement and communication of flexibility, is illustrated in figure 6.16.

Figure 6.16 : The implementation process



Source: Own observation.

The first step towards the implementation and use of flexibility is to create an *awareness* of the construct and its role in the long-term wealth creation and well-being of an enterprise. This awareness should be created both within and outside the enterprise.

Once an awareness of the role and use of flexibility has been created, management may *experiment* with the effect the different categories and levels of flexibility have on their enterprise. They should also study the levels of flexibility attained by competitors and the competitiveness of markets. Experimentation may result in the identification of certain types, combinations and levels of flexibility through which the enterprise may gain a competitive advantage.

Once the experimentation phase is complete, it is necessary to gain *acceptance* for the introduction of flexibility. Aspects such as corporate culture, responsiveness to change, defensive routines, the political bases in the organisation and training programmes should be considered. It is important to stress that some flexibility already exist in most organisations but that it may not have been described or labelled as such. Its existence may thus not be visible at the outset of the process. The *introduction* of a more formal structure for flexibility will lead to the identification of existing flexibility levels as well as those areas where flexibility should be created. During the introduction phase the Volberda and Pasmore frameworks may be used as a departure point.

Once certain goals for flexibility have been identified by management, it will be necessary to *measure* the levels of actual, potential and required flexibility by introducing appropriate measures and indicates. The indicators can be used to quantify the aims of the enterprise as well as measure progress towards achievement.

These indicators should be *communicated* to users inside the enterprise to enable them to assess their performance and also to stakeholders outside the enterprise, allowing them to compare the actual results against the predetermined indicators over time. It is envisaged that once the use of flexibility indicators become prevalent among enterprises, and are *accepted* by stakeholders, certain indicators may become standard practice which will improve the comparability of information on flexibility among enterprises. This may ultimately result in the development of *benchmark* industry indicators.

Throughout the implementation process constant *feedback* and repositioning of the organisation is required. For example, once the management has experimented with certain categories of flexibility and is introduced it into the enterprise, further refinement may be necessary through feedback to the experimentation phase.

The measurement and communication of information flexibility via the accounting information system is addressed in the next chapter.

6.7 The impact of flexibility on Accounting

The importance of becoming flexible in order to survive in a volatile and changing environment is well recognised in the literature on Management Theory. The full impact of flexibility has however not yet been recognised in Accounting. In Financial Accounting the exposure to flexibility has been limited largely to the attempts of the FASB and the AICPA to increase the reported information on financial flexibility (only one category of flexibility) in the financial statements. In Managerial Accounting prominent authors such as Johnson (1992) and Allen (1994) have recognised that flexibility forms an important element in the decision-making process of management. However, on the whole the focus has been on production flexibility. Other authors in Management Accounting have concentrated on the inadequacies of existing models and techniques, such as capital budgeting and valuation, because they failed to recognised the impact of different types and levels of flexibility (Hayes & Abernethy, 1980; Hayes & Garvin, 1982; Trigeorgis & Mason, 1987). Even in Strategic Management Accounting, which provides a vehicle for recognising the full impact of flexibility on all decision levels, the different categories of flexibility have not been given attention. Kogut (1983) notes that in strategic management literature attention is focused on encouraging managers of multinational enterprises to implement strategies that highlight operational flexibility.

One of the reasons for the lack of recognition of the importance of flexibility in Accounting is that the discipline is not geared to deal with a construct of this nature. Flexibility requires a future based, outward looking and often qualitative orientation, but the traditional accounting model was developed to deal with the past, to look inward to operative and administrative issues in the firm, with a quantitative orientation. Consequently it is suited for dealing with an unpredictable future which requires scanning of the environment, monitoring of competitors, the ability to deal with change and the development of information which supports strategic decision making.

Heath (1980, p.55) made the following comment on the inflexibility of accountants and the accounting system:

> "Accounting practices that have developed under conditions existing at one point in time may become so embedded in our thought processes that they will come to be regarded as natural or inevitable. As a result these practices may not be re-examined and re-evaluated in the light of the changed circumstances and conditions."

Just as an investment decision is incomplete without taking flexibility into consideration, so the decision making of shareholders or other stakeholders of an organisation are incomplete without considering all levels of flexibility. If Accounting continues to ignore the central role of flexibility in surviving in volatile and changing times, it may progressively lose its relevance and utility. The next chapter considers the impact of flexibility on Accounting, the different attempts by standard setters to introduce more information on flexibility and the type of information that should be communicated in more depth.

6.8 Summary

The construct of flexibility has been observed in the enterprise (Donaldson, 1971) and the benefits to enterprises of being flexible has been described in the literature (Pasmore, 1994; Peters, 1991; Boynton & Victor, 1991; Johnson, 1992, Gerwin, 1993; Volberda, 1998). However, there is a lack of theoretical frameworks to guide management in developing flexible organisations. There is also limited guidance in the literature on measuring and communicating information on flexibility to a variety of stakeholders.

The development of the construct of flexibility along more formal lines allows management and employees to explore the possibility of adding long-term value to an enterprise by creating and sustaining certain levels and types of flexibility in response to different changes in the environment. Flexibility is, however, not a static condition, but rather a dynamic process (Volberda, 1998). This implies that creating and sustaining a flexible organisation is a continuous process, too.

In this chapter the influence of flexibility on the organisation was considered. The term was first defined to demarcate the field of study. The multidimensional aspects of the construct was highlighted in a discussion on the relationships between flexibility and aspects such as change, management responsibility and choice, survival, innovation, organisational structure, and so forth. A classification framework consisting of six categories and four aspects based largely on a functional approach was then proposed. The framework can be used as a basis to study the multidimensional and complex construct in organisations, as well as for the development of information on flexibility and flexibility indicators. The scope of each of the identified categories of flexibility in the organisation was described next. Procedures for designing a flexible organisation and implementing flexibility in organisations were addressed and finally the impact of flexibility on Accounting was briefly considered. This aspect is addressed in more detail in the next chapter.