

**THE RELATIONSHIP BETWEEN ORGANISATIONAL CULTURE AND FINANCIAL  
PERFORMANCE IN A SOUTH AFRICAN INVESTMENT BANK**

by

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## SUMMARY

This research explores the relationship between the organisational culture and financial performance of a South African investment bank by means of quantitative research. The Denison Organizational Culture Survey was used to measure the organisational culture of the investment bank and was administered to a sample of 327 employees. Income statement ratio analysis was selected as a means to assess the financial performance. The results indicate that very few of the financial measures selected could be shown to be correlated with the organisational cultural traits or subscales. Correlations between the cultural dimensions of team orientation, agreement, customer focus and vision were found with certain financial measures. Although these correlations were above the 0.50 level, the levels of significance were not sufficient in all cases to draw conclusions with confidence. The only cultural trait that was found to be correlated with financial measures was the consistency trait.

**Key words:**

Organisational culture; financial performance; Denison Organizational Culture Survey, ratio analysis.

## **CHAPTER 1**

### **OVERVIEW OF THE RESEARCH**

This dissertation focuses on the relationship between organisational culture and financial performance. The aim of this chapter is to provide the background and motivation for this research. The problem statement will be discussed, the aims will be specified and the research model will be explained. The paradigm perspectives of the research will be given, including the relevant paradigms, metatheoretical statements and theoretical models. Thereafter, the research design and methodology will be presented and the chapter layout will be given. This chapter will end with a chapter summary.

#### **1.1 BACKGROUND AND MOTIVATION FOR THE RESEARCH**

Concern with the effectiveness, productivity, efficiency or excellence of organisations is a subject that has motivated the writings of economists, organisation theorists, management philosophers, financial analysts, management scientists, consultants and practitioners, and has served as a unifying theme for over a century of research on the management and design of organisations. Empirical research has, however, not contributed to the development of a universal theory of organisational effectiveness and measures of effectiveness in the past have often been based on a set of subjective measures (Lewin & Minton, 1986).

The entrance of new competitors into the financial services arena during the past few years in South Africa has had a profound effect on the banking business. The old methods of acquiring and developing business have changed and new models for leadership and management have been called for. These new models require bank managers to be far more knowledgeable about their markets and more competitive in how they approach them. In general, banks have not competed on the basis of cost and the margins of return on most banking products and services are relatively small (Paradise-Tornow, 1991). Whilst quality of service is a key differentiating factor for attracting and retaining customers, sound financial management is necessary to keep the banks afloat and competitive.

In order to achieve the desired level of financial performance, many organisations have restructured, merged, benchmarked, re-engineered, implemented total quality management programmes and introduced competitive staff benefits. Despite these attempts, organisations are still asking themselves why they have not yet seen the anticipated results or why they are not experiencing high performance (Jeuchter, Fisher & Alford, 1998). Analyses of sustained superior financial performance of certain American organisations have attributed their success to the specific culture of each of the respective organisations (Ouchi, 1981; Deal & Kennedy, 1982; Peters & Waterman, 1982 and Lewis, 1994). Culture sets the boundaries and supports an organisation's ability to function. All the change in the world cannot provide sustainable performance unless an organisation's culture and people are fully prepared and aligned to support that change. Culture is what distinguishes truly high-performing organisations from the pack (Jeuchter et al, 1998).

The first systematic attempt to understand Western organisations in cultural terms occurred during the late 1920s with the well-known Hawthorne studies at the Western Electric Company (Van der Post, De Coning & Smit, 1998). These studies highlighted the importance of the culture of a work group, which was found to have a greater impact on productivity than either technology or working conditions (Schuster, 1986). The human relations movement sparked by the Hawthorne studies is directly relevant to today's efforts to understand and manage corporate culture (Kilman, Saxton & Serpa, 1986). Likert (1961) emphasises the need for a corporate culture of cooperation and demonstrates that there is a significant correlation between employee attitudes and performance. Pragmatic interest in how Japan, as an industrial society, has achieved its outstanding and envied economic success has led to a high incidence of books and research papers based on comparative studies of the cultures in Japanese and Western organisations, and how these cultures impact on productivity (Ouchi, 1981).

Kotter and Heskett (1992) have established that corporate culture has a significant effect on an organisation's long-term sustainability and economic performance. They found, over an 11-year period, that organisations with an embedded culture had greater revenue increases, larger workforce expansions, greater increases in share price and larger improvements in net income than their counterparts with weaker cultures. Peters and Waterman (1982) identified 36 American companies which had displayed excellent performance between 1961 and 1980

in terms of compounded asset growth, average turnover growth, average ratio of market to book value, average return on capital, average return on equity and average return on sales. Their research indicates that there are certain direct links between corporate culture and financial performance. A study conducted by Tidball (1988) highlights the importance of establishing linkages between the elements of organisational culture and outcomes such as profitability, turnover and commitment. She indicates that congruence of beliefs seems to create a unifying force that boosts organisational performance. When people can clearly see the link between their behaviour and the profitability of the organisation, those behaviours will tend to be reinforced. The results of this study indicate that culture is a force that affects both employee behaviour and the success of a company. Denison (1990) has also found clear, compelling relationships between an organisation's culture and bottom-line business performance in the research that he conducted over a 15-year period with more than 1000 participating organisations. According to Calori and Sarnin (1991), the study conducted by Denison is the most extensive quantitative study on corporate culture and organisational performance in which return on investment, return on equity and return on sales were shown to be linked to certain cultural traits.

Recent studies thus indicate that corporate culture impacts on an organisation's long-term financial performance and will probably be an important factor in determining the success or failure of organisations during the next decade. It is possible to develop corporate cultures that inhibit long-term financial performance and this may happen despite the fact that the organisation is staffed by reasonable and intelligent people. Corporate culture is, however, something that is not static and, although difficult to change, can be made more performance enhancing (Kotter and Heskett, 1992).

## **1.2 PROBLEM STATEMENT**

The years ahead should be a good time for dreamers and visionaries in the business world, since the barriers to innovation and the roadblocks to inspiration and imagination are being knocked down one by one (Moss Kanter, 1989). South Africa was a very closed community during the apartheid years, with many sanctions being imposed against the country. This meant that the local environment was less competitive as few multinational firms operated within the country. In addition to this, the opportunities for exporting manufactured

products were limited. As a result of these factors, South African organisations were not overly concerned with internal efficiencies and price competitiveness.

With the first democratic elections in 1994 and the rise to power of the new government, the country's borders were opened for trade. Furthermore, all over the world, major countries are lowering the barriers to enterprise by deregulating industries and by developing international standards to allow commerce to flow across their borders (Moss Kanter, 1989). This has not only led to the entry of multinational corporations to South Africa, but also to the trend of South African organisations expanding their horizons internationally. In order to compete and survive in this new economy, South African organisations need to be exceptionally well-managed and need to achieve successful long-term financial results.

While it has been suggested that culture accounts for the economic performance of various countries (Hofstede & Bond, 1998), the idea of a corporate culture also serves to provide a basis for understanding the differences that may exist between successful companies operating in the same national culture (Schein, 1990). Peters and Waterman (1982) state that successful organisations possess certain cultural traits of excellence, and Ouchi (1981) presents a similar relationship between corporate culture and increased productivity. Deal and Kennedy (1982) also argue for the importance of a strong culture in contributing towards successful financial performance. Despite the claims that a link exists between organisational culture and financial performance, few studies appear to have actually examined the existence and the nature of this relationship (Lim, 1995), or presented supporting evidence for it (Denison & Mishra, 1995).

The quantitative studies that have been conducted linking organisational performance to financial performance have generally been conducted in the United States of America. There are many instruments claiming to measure organisational culture in the South African context, but very few of them have been studied scientifically to determine whether they are in fact valid measures of organisational culture. In addition to this, the instruments that measure culture do not indicate how the culture is likely to influence the financial performance of the organisation (Van der Post et al, 1998).

The core reason for the existence of most organisations is to make a profit for its owners or shareholders. Even in the case of non-profit organisations, sound financial management is

required in order to remain in business. If an organisation cannot survive financially, it will have to cease all its operations (Gitman, 1991). Financial performance is thus the key focus of many line managers and any initiative that does not relate to the achievement of this objective is rarely regarded as being important. Culture is often described as something that is intangible, difficult to understand and nice to focus on if there is time. The reality of the current business world is that there is rarely time to focus on factors that are not essential for the achievement of business objectives. Being able to use a culture model that shows a direct link between culture and performance in the long term can elevate the importance of the concept of organisational culture in the South African business environment.

The reason for this research is that whilst much literature has been produced on the relationship between organisational culture and financial performance, there is not much statistical evidence supporting this relationship (Van der Post et al, 1998). It was mentioned in the background above that the research conducted by Denison is the most extensive quantitative study on organisational culture and financial performance. Although a significant amount of research has been conducted on the Denison Organizational Culture Survey, there have been no studies of this nature in South Africa. This research will thus attempt to establish whether a quantitative relationship exists between organisational culture and financial performance in a South African investment banking organisation.

### **1.2.1 General Research Question**

The general research question that requires further research is as follows:

Is there a relationship between organisational culture and financial performance in a South African investment banking organisation?

### **1.2.2 Specific Research Questions**

In terms of the literature study, the following specific research questions should be addressed in this research project:

- How can organisational culture be conceptualised and what are its key aspects?
- How can organisational culture be measured?
- How can financial performance be conceptualised and what are its key aspects?
- How can financial performance be measured?
- How can the concepts of organisational culture and financial performance be integrated?

In terms of the empirical study, the following specific research questions should be addressed in this research project:

- What is the organisational culture profile in a South African investment banking organisation?
- What are the financial results of a South African investment banking organisation?
- Does a relationship exist between the organisational culture profile and the financial performance in a South African investment banking organisation?
- What recommendations can be formulated for Industrial Psychology based on the findings of this research?

### **1.3 AIMS OF THE RESEARCH**

Given the specific problem that should be investigated, the aims of this research project are listed below.

### **1.3.1 General Aim**

The general aim of this research is to determine whether there is a relationship between organisational culture and financial performance in a South African investment banking organisation.

### **1.3.2 Specific Aims**

In terms of the literature study, the specific aims of this research are to

- conceptualise organisational culture and to determine its key aspects
- determine how organisational culture can be measured
- conceptualise financial performance and determine its key aspects
- determine how financial performance can be measured
- integrate the concepts of organisational culture and financial performance

In terms of the empirical study, the specific aims of this research are to

- investigate the organisational culture in a South African investment banking organisation
- investigate the financial data of a South African investment banking organisation
- investigate whether a relationship exists between the organisational culture profile and the financial performance in a South African investment banking organisation

- formulate recommendations for Industrial Psychology and further research based on the findings of this research

## **1.4 RESEARCH MODEL**

The research model of Mouton and Marais (1994) will be used as a framework in this research. This model aims to incorporate the five dimensions of social sciences research, namely sociological, ontological, teleological, epistemological and methodological dimensions, and to systematise them within the framework of the research process.

This model embodies a particular approach to the interpretation of the process of research in the social sciences. Mouton and Marais (1994) describe social sciences research as a collaborative human activity in which social reality is studied objectively with the aim of gaining a valid understanding of it.

The model can be described as a systems theoretical model. Figure 1.1 shows the three subsystems of the model, namely the intellectual climate, the market of intellectual resources and the research process itself, which interact with each other and with the research domain as defined in a specific discipline. In this case, the relevant discipline is Industrial Psychology.

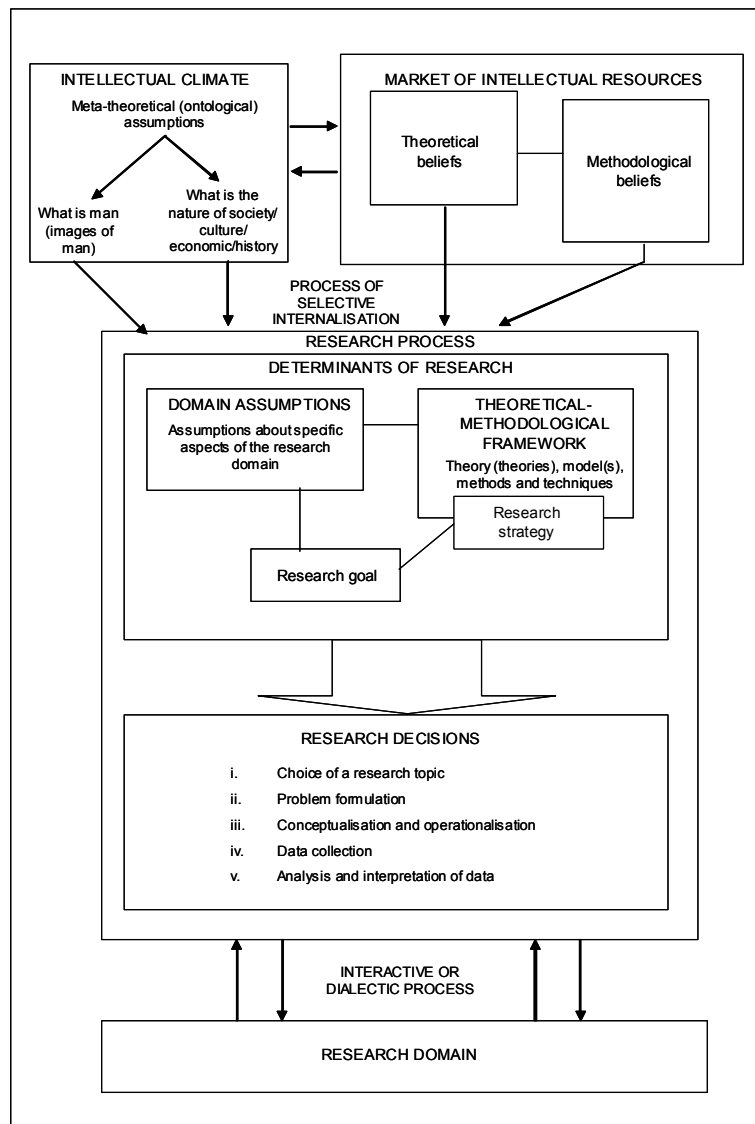


Figure 1.1: Mouton and Marais' Research Model (Mouton & Marais 1994, p22)

### 1.4.1 The Intellectual Climate

The intellectual climate refers to the variety of metatheoretical values or beliefs which are held by those practicing within a discipline at any given stage. This includes the sets of beliefs, values and assumptions which, because of their origin, can usually be traced to non-scientific contexts and are not directly related to the theoretical goals of scientific research (Mouton & Marais, 1994). For the purpose of this research, the assumptions will be formulated with respect to the relevant paradigms relating to Industrial Psychology, Psychology and organisational performance.

### **1.4.2 The Market for Intellectual Resources**

The market for intellectual resources refers to the collection of beliefs which have a direct bearing upon the epistemic status of scientific statements and their status as knowledge claims. The two major types that can be differentiated are the theoretical beliefs about the nature of phenomena and methodological beliefs concerning the nature and structure of the research process (Mouton & Marais, 1994). For the purpose of this research, the central hypothesis and conceptual descriptions about financial performance and organisational culture (and their associated models and theories) were presented, as well as various methodological assumptions.

### **1.4.3 The Research Process**

In the research process, the researchers internalise specific inputs from the paradigms to which they subscribe in a selective manner, so as to enable them to interact with the research domain in a fruitful manner and to produce scientifically valid research. The choice regarding the specific inputs which are selected from a given paradigm tends to be made as a consequence of the theoretical and methodological demands posed by the research problem (Mouton & Marais, 1994). The research process that is applicable to this research will be described in detail in chapter 4.

## **1.5 THE PARADIGM PERSPECTIVE**

With reference to the paradigm perspective of the research, the relevant paradigms, metatheoretical statements, applicable concepts and the methodological convictions will be discussed.

This research will be conducted within the field of Industrial Psychology and, more specifically, within the subdiscipline of Organisational Psychology. The literature study will focus on the variables that constitute organisational culture and financial performance. The empirical study will focus on psychometrics and statistical analyses of the data within and between the paradigms.

According to Kuhn (1970), a paradigm is a model for conducting normal research and can be defined as a set of rules and regulations that clarify boundaries for the researcher regarding what should be researched and how the research should be conducted. Paradigms also determine parameters for success in terms of what would be regarded as valid research solutions. However, the social sciences appear to be in a pre-paradigmatic phase of development, when using Kuhn's theory of a paradigm as a point of reference (Mouton & Marais, 1994), due to the fact that a single paradigm is not dominant in the social sciences. The social sciences are not as exact a science as the natural sciences and thus paradigmatic predictions are made within the notion of probability or levels of acceptance, usually determined through statistical analyses.

### **1.5.1 The Relevant Paradigms**

The overall approach of this research will be from a systems perspective. The systems perspective indicates that the individual is seen as a subsystem within a hierarchy of larger systems and that the individual, in turn, is made up of several subsystems (Meyer, Moore & Viljoen, 1997). These subsystems have recognisable relationships that are systematically arranged to serve a perceived purpose (Hermansson, 1993). The organisation can be regarded as one of the larger systems and will be the framework within which this research takes place.

Other paradigm perspectives that will be applicable to this research are the behaviourist and humanist paradigms that relate to the literature review on organisational culture and the functionalist paradigm that relates to the literature review on financial performance.

#### *1.5.1.1 The Behaviourist Paradigm*

Meyer, Moore and Viljoen (1997) indicate that the behaviourist paradigm maintains that observable behaviour is psychology's sole object of study and that unobservable phenomena, such as thoughts, feelings and values, are regarded as inaccessible to scientific study. Behaviourists indicate that learning takes place through stimuli and responses which are

combined through learning experiences. The prediction of human behaviour is regarded as the goal of scientific endeavour.

#### *1.5.1.2 The Humanist Paradigm*

The humanist paradigm presents human beings as integrated persons who actively and consciously strive towards the actualisation of their potential. Humanists acknowledge the subjective experiential world of the individual and conceptualise human nature as positive. They focus on conscious processes and on the individual as an active participant in the determination of his or her own behaviour (Meyer, Moore & Viljoen, 1997).

#### *1.5.1.3 The Functionalist Paradigm*

According to Burrell and Morgan (1979), the functionalist paradigm has provided the dominant framework for the conduct of academic sociology and the study of organisations. It represents a perspective which is firmly rooted in the sociology of regulation and approaches its subject matter from an objectivist point of view. It is primarily regulative and pragmatic in basic orientation and is concerned with understanding society in a way that generates useful empirical knowledge. Functionalists indicate that society has a concrete, real existence and a systemic character oriented to produce an ordered and regulated state of affairs.

### **1.5.2 Applicable Metatheoretical Concepts**

According to Mouton and Marais (1994), it is generally accepted in the philosophy of science today that no scientific finding can be conclusively proven on the basis of empirical research data. In different stages of the scientific research process, and for different reasons, the researcher is compelled to make assumptions justifying specific theories and methodological strategies that are not tested in the specific study. One important category of such assumptions is the metatheoretical assumptions underlying the theories, models and paradigms that form the definitive context of the study. The argumentative nature of scientific communication demands that this often tacit dimension of scientific practice should

be made explicit. The metatheoretical concepts that will be applicable to this research are outlined below.

#### *1.5.2.1 Industrial Psychology*

This research project will be undertaken in the context of Industrial Psychology, which can be defined as the scientific study of human behaviour and the application of this knowledge to minimise some of the human problems that inevitably arise in the workplace (McCormick & Ilgen, 1992).

According to Veldsman (2001), the core identity of Industrial Psychology can be profiled as a field of enquiry, a discipline, a domain of practice and a profession focusing on people's world of work from a psycho-social perspective, by striving for an understanding and enhancement of that world through the generation and utilisation of its theoretical knowledge objects.

The relevant subfields of Industrial Psychology that will be included in this research are Organisational Behaviour and Psychometrics.

#### *1.5.2.2 Organisational Behaviour*

Organisational Behaviour can be defined as the study of human behaviour, attitudes and performance within an organisational setting, drawing on theory, methods and principles from such disciplines as Psychology, Sociology and Cultural Anthropology to learn about individual perceptions, values, learning capacities and actions whilst working in groups and within the total organisation; analysing the external environment's effect on the organisation and its human resources, missions, objectives and strategies (Ivancevich & Matteson, 1996).

This particular subdiscipline seeks to answer the question as to why employees behave as they do in organisations. Understanding the behaviour of people in organisations has become increasingly important as management concerns such as employee productivity, the quality of work life, job-stress and career progression continue to make front news. This

research will also adopt the metatheoretical concept of group behaviour, which can be classified within the field of organisational behaviour. The existence of groups in organisations can alter the individual's motivation or needs and influence the behaviour of individuals in an organisational setting. All individuals are likely to form part of a group within an organisation, some of which may bring out the best in their members and others, the worst. It is important to study these groups in order to gain an understanding of the bigger organisational picture (Ivancevich & Matteson, 1996).

#### *1.5.2.3 Psychometrics*

Psychometrics is a specialist area of Psychology, focusing on the development and evaluation of psychological tests (Gregory, 1996) for the purpose of measuring psychological variables. Psychometrics puts researchers in a position to measure behaviour in various forms by offering different explanations for interpersonal and intrapersonal functioning. In this research the Denison Organizational Culture Survey is used to measure organisational culture.

### **1.5.3 Applicable Behavioural Models and Theories**

In this research the theoretical models will be based on the theory of organisational culture, validation and financial performance. This will provide a framework within which the link between the organisational culture profile and the financial performance of the organisation will be assessed.

#### *1.5.3.1 Organisational Culture Models and Theory*

The theories and models on organisational culture that will be explored for further examination are contained in the research of Denison (1990); Schein (1990); Kotter and Heskett (1992); and Goffee and Jones (1998). The organisational culture is the character of the corporation and is made up of several components, some of which are directly observable and others which are based on beliefs, values and underlying assumptions. Together these form the foundation of an organisation's management system and practices.

### *1.5.3.2 Financial Performance*

In order to conceptualise financial performance and to select the dimensions relevant to this research, the writings of Gallinger and Poe (1995); Bradshaw and Brookes (1996); Collier, Cooke and Glynn (1989); Gitman (1991); and Correia, Flynn, Uliana and Wormald (2000) will be reviewed. Finally, the dimensions of financial performance presented in the research by Paradise-Tornow (1991) will be used as a basis for the dimensions of financial performance selected for this research.

## **1.5.4 Applicable Concepts and Constructs**

The concepts and constructs that will be applicable to this research are highlighted below.

### *1.5.4.1 Strong Culture Profile*

A strong culture is one of the key concepts relating to the organisational culture profile. According to Kotter and Heskett (1992), a strong culture occurs when the individuals in the organisation have the same perceived reality of organisational life. According to the Denison culture framework, a strong culture is represented by high scores in the involvement, consistency, mission and adaptability cultural traits when compared to a norm group of high performing organisations (Denison, 2000a).

### *1.5.4.2 Financial Performance Criteria*

It is important to identify the criteria that will measure financial performance accurately within a given organisation. According to Malan (personal communication, 31 July 2002), the criteria selected should be dependent on the generally accepted performance criteria for the industry concerned. In this research a set of profitability ratios based on the income statement will form the basis for the measurement of financial performance.

### 1.5.5 Methodological Convictions

Methodological convictions are beliefs concerning the nature of social sciences and scientific research. Methodological convictions are often no more than methodological preferences, assumptions and presuppositions about what ought to constitute good research. There is, however, a direct link between methodological beliefs and the epistemic status of research findings, which can be traced back to the context of scientific praxis (Mouton & Marais, 1994). The methodological convictions that will be applied to this research are outlined below.

#### 1.5.5.1 *Sociological Dimension*

The sociological dimension emphasises that scientists operate within a clearly defined scientific community and that they are linked in research networks which form the basis for their further research. Within this dimension, research is classified as experimental, scientific and exact (Mouton & Marais, 1994). This research will focus on the quantitative analysis of variables, and will make use of research networks through the examination of various psychology and financial publications and journals.

#### 1.5.5.2 *Ontological Dimension*

The ontological dimension refers to the discussions and disputes on the various ways in which research domains can be defined and classified, and defines the reality that is being measured (Mouton & Marias, 1994). This research will focus on the measurement of the culture profile and financial performance of certain departments in a South African investment banking organisation. Although the research will focus on the departmental level, the data gathered can be aggregated to measure the organisational unit.

#### 1.5.5.3 *Teleological Dimension*

This dimension refers to the fact that social science, as a typical human activity, is goal-driven. Research objectives can be classified as theoretical and practical. Theoretical research

is exploratory, descriptive and explanatory. Practical objectives provide information, and diagnose and solve problems (Mouton & Marais, 1994). The goals of this research are explicit, namely to determine whether the organisational culture profile is likely to have an impact on financial performance. Furthermore, in practical terms, the teleological dimension looks at furthering the field of Industrial Psychology by providing information on the relationships between organisational culture and financial performance.

#### *1.5.5.4 Epistemological Dimension*

The epistemological dimension relates to the search for the truth. The aim of research is thus to generate valid findings which are as close to the truth as possible (Mouton & Marais, 1994). This research will attempt to achieve this truth through a good research design and the achievement of valid results.

#### *1.5.5.5 Methodological Dimension*

The methodological dimension relates to the “how” of social sciences research. Methodology can thus be defined as the logic of the application of scientific methods to the investigation of phenomena. The three methodological approaches are quantitative, qualitative and participatory action (Mouton & Marais, 1994). The research process will be described in more detail in chapter 4. The research methods selected are data collection through questionnaires and financial statements, data analysis through statistical techniques and inference through inductive reasoning.

### **1.5.6 The Central Hypothesis**

The central hypothesis can be formulated as follows:

There is a relationship between the organisational culture profile and the financial performance in a South African investment banking organisation.

## **1.6 RESEARCH DESIGN**

The structure of the research design is highlighted below. The research variables, the types of research, and methods to ensure reliability and validity will be discussed.

### **1.6.1 Research Variables**

The dependent variable in this research is financial performance and the independent variable is organisational culture. The objective of this research is to determine whether organisational culture (independent variable) has an effect on financial performance (dependent variable). According to Mouton and Marais (1994), the independent variable should theoretically be able to be controlled by the researcher. In this study, however, it will not be possible to manipulate the independent variable directly. The culture profile is, however, likely to vary across departments and thus the departments will be used as a source of differentiation.

### **1.6.2 Type of Research**

This research will be conducted by means of a quantitative research approach. This implies that the hypothesis will be explicitly stated, formulated beforehand and measurable through the use of a measuring instrument. The research will be conducted with a view to testing the hypothesis and, ultimately, either accepting or rejecting the formulated hypothesis.

The study will be descriptive in nature, as the relationship between organisational culture and financial performance should be described through the research. Christensen (1997) indicates that the primary characteristic of the descriptive research approach is that it represents an attempt to provide an accurate description or picture of a particular situation or phenomenon. It attempts to identify variables that exist in a given situation and describes the relationship that exists between those variables. This research meets these requirements as the characteristics and constructs of organisational culture and financial performance are clearly defined and analysed using quantitative techniques, and the aim of the research is to determine the nature of the relationship between the two variables.

Explanatory research goes further than merely indicating that relationships exist between variables (Mouton & Marais, 1994). It indicates the direction of the relationships in a causal relationship model. In this research, a particular organisational culture profile is hypothesised to have a positive impact on the financial performance of the organisation. This research can thus also be described as being explanatory in nature.

### **1.6.3 Unit of Analysis**

The unit of analysis in this research will be the group. The organisation and its various departments can be referred to as groups which comprise a collective of individuals that make up the employees of the organisation. The organisational culture will be examined at group level by examining the results per department, as one single individual cannot determine the organisational culture which is a collective phenomenon. The financial performance of the organisation will also be assessed at group level by examining the results of each department.

### **1.6.4 Methods to Ensure Reliability and Validity**

The research study will be designed in such a way as to employ various methods to ensure the reliability and validity of the study.

#### *1.6.4.1 Validity*

Research should be properly designed in order to ensure that it is both internally and externally valid. Research is internally valid when the constructs are measured in a valid way and the data that is measured is accurate and reliable. The analysis should be relevant to the type of data collected and the final solutions should be adequately supported by the data (Mouton & Marais, 1994). The researcher should follow these principles. According to Christensen (1997), external validity is the extent to which the results of research can be applied to and across different persons, settings and times. The focus of section 5.4 in chapter 5 will be on the internal validity of the research.

Theoretical validity, which postulates the clarity of concepts and their scope, should be addressed in the literature review (Mouton & Marais, 1994). In order to address theoretical validity in this research project, chapters 2 and 3 of the research report will involve the detailed conceptualisation of the terms organisational culture and financial performance respectively, in order to ensure that the concepts are clear and well-defined. These conceptualisations will be extracted from relevant literature in order to ensure that the subjective choice of constructs, concepts and dimensions are removed from this research. In addition to this, the meanings of each of these concepts will be operationally defined and all the subcomponents will be listed. The latest literature will be explored in this research. However, a number of classical sources will also be referred to due to their relevance to the concepts and to provide a historical perspective on the emergence of the concepts.

In the empirical research, validity will be ensured through the use of appropriate measuring instruments. Validation studies have been conducted on the instrument selected to measure organisational culture in the United States. In order to determine whether this measurement instrument is valid in the South African context, the empirical research will address the validation of the instrument in the research organisation. All employees will be invited to form part of the research sample and the final sample is thus more likely to be representative of the job levels and departmental breakdown of the organisation. In order to ensure that the final results of the statistical analyses are valid, non-income generating departments will be removed from the sample in order to ensure that the data is not skewed.

#### *1.6.4.2 Reliability*

According to Christensen (1997), reliability refers to consistency or stability. Reliability in the literature review will be addressed by using existing literature sources, theories and models that are available to other interested academics.

In the empirical research, the data gathering techniques used will ensure anonymity in order to make sure that the participant effects of motivation are addressed. Names of participants will therefore not be written on the questionnaire responses. A representative sample of

employees reflecting the demographics of the organisation will be selected for this research. The data gathered will be used to test the reliability of the instrument selected.

## 1.7 RESEARCH METHOD

The research method is divided into two phases, which address the literature review and the empirical study respectively.

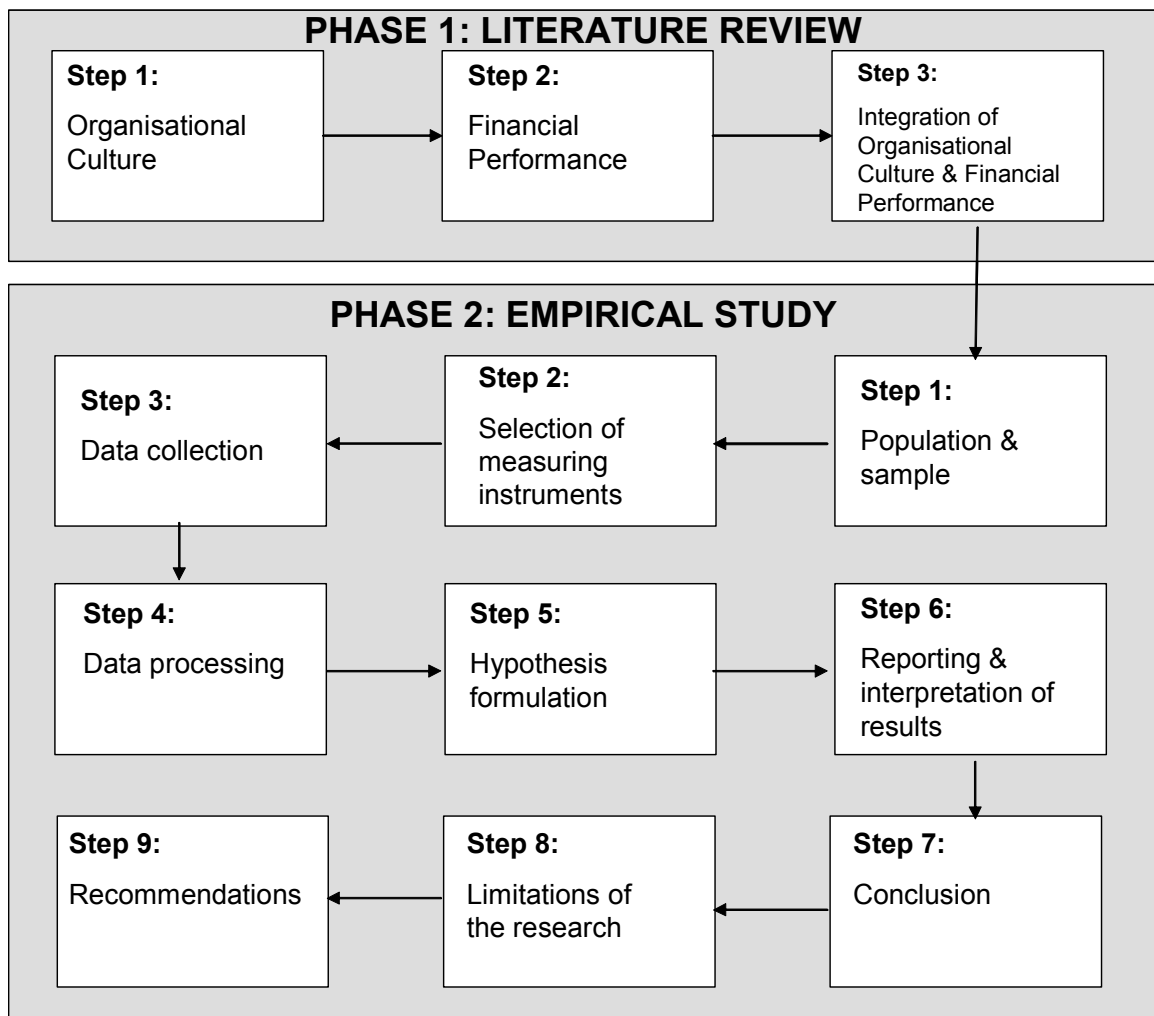


Figure 1.2: Flow Diagram of the Research Method

### 1.7.1 Phase 1: Literature Review

The literature review will consist of a review of organisational culture literature, as well as literature on financial performance.

#### 1.7.1.1 Step 1: Organisational Culture

The first specific aim of the research is to conceptualise organisational culture and to determine its key aspects. Various accredited sources on organisational culture will be examined for the purpose of

- conceptualising the construct of organisational culture clearly
- examining various aspects of organisational culture, including:
  - the types and dimensions of organisational culture
  - the various models of organisational culture
  - the role that culture plays in an organisation
  - the ability to change culture
- determining the ways in which organisational culture can be measured, and
- selecting an organisational culture model and measurement technique on which to base this research

The evaluation of the above will be done within the context of the recent and classical literature, with a view to determining the most appropriate organisational culture model and measurement technique for the purposes of this research.

### 1.7.1.2 *Step 2: Financial Performance*

The second specific aim of the research is to conceptualise financial performance and to determine its key aspects. Various accredited sources on financial performance will be examined for the purpose of

- conceptualising and defining financial performance
- examining various aspects of organisational culture, including:
  - the fundamental principles of financial management
  - financial statements as sources of performance information
- determining the measurement of financial performance by means of financial statements, and
- selecting the appropriate measurement technique and components of financial performance for this research

The evaluation of the above will be done within the context of the recent and classical literature on the subject, with a view to determining the most appropriate components of financial performance for the research. The selection of the most appropriate financial statement from which to assess performance data, and the measurement technique to be used, will be based on the concepts and constructs analysed in the literature review.

### 1.7.1.3 *Step 3: Integration of Organisational Culture and Financial Performance*

Once the literature on organisational culture and financial performance has been examined, the concepts clearly conceptualised and their key components defined, the two concepts will be integrated. The aim of this step of the research is to integrate the concepts and dimensions

of organisational culture and financial performance within the context of the culture model selected for this research.

### **1.7.2 Phase 2: The Empirical Study**

The empirical study will be conducted within a South African investment banking organisation.

#### *1.7.2.1 Step 1: Population and Sample*

The population for this study will be 497 employees within a single investment banking organisation. All the employees in the organisation will be invited to participate in the research; however, the sample will be dependent on the number of respondents who complete the questionnaire.

#### *1.7.2.2 Step 2: Measuring Instruments*

A questionnaire which measures the independent variable of organisational culture will be selected for this research. In order to measure the dependent variable of financial performance, the appropriate financial statement and analysis technique will be selected, based on the literature review as well as interviews with representatives from the organisation's finance department.

#### *1.7.2.3 Step 3: Data Collection*

The organisational culture data will be collected from individuals in group settings. Individuals will be required to complete a paper-based version of the measuring instrument. If participants cannot attend these sessions, the questionnaires will be mailed to them for completion.

The monthly financial statements and relevant ratios of the organisation, broken down per department, will be obtained for the same month in which the culture assessment will be conducted for 2001 and 2002. This data will be obtained from the finance department of the organisation.

#### *1.7.2.4 Step 4: Data Processing*

Each questionnaire response will be captured onto a computer software programme for the purpose of analysis and control. Once the data has been captured onto the system, statistical analyses will be conducted through the use of the AMOS statistical programme.

The statistical procedures relevant to this research will include:

- Pearson's correlation coefficient
- Cronbach's coefficient alpha
- chi-square
- RMSEA
- analysis of variance (F-value)
- level of significance (P-value)
- effect size (partial Eta squared)
- mean
- standard deviation, and
- frequency

#### *1.7.2.5 Step 5: Formulation of the Hypotheses*

In order to operationalise the research, empirical hypotheses will be formulated from the central hypothesis to test whether a relationship exists between the organisational culture profile and the financial performance of each revenue generating department within the investment bank.

#### *1.7.2.6 Step 6: Reporting and Interpretation of Results*

The statistical data will be analysed and conclusions will be drawn from the analysis through the process of inductive reasoning. The results of the research will be reported in tables and figures which will provide the relevant statistical data and the results will be interpreted in order to clarify the results.

#### *1.7.2.7 Step 7: Conclusion*

The research findings will be concluded at the end of phase two of the research project. This will involve a review of the aims set for the research project. Conclusions will then be drawn from the empirical study, relating to the following:

- the culture profile of the South African investment bank
- the financial data of the South African investment bank
- the relationship between the organisational culture profile and the financial data of the South African investment bank
- the formulation of recommendations for further research

#### *1.7.2.8 Step 8: Limitations of the Research*

The limitations that may influence the success of the research project are as follows:

- The research will be conducted in a single organisation, resulting in a small sample size. The research would be more valid if it involves a number of organisations in the study in order to be able to generalise the results.
- The Denison Organisational Culture Survey is an instrument that has been designed and validated in the American context. No validation information is available for the South African context.
- Inability to access the culture of the organisation and its various departments over a period of time using the same measuring instrument.
- Inability to manipulate the independent variable.

#### *1.7.2.9 Step 9: Recommendations*

The recommendations section of the research report will involve the answering of the research questions and solving the research problem. This section will therefore address the following aspects:

- recommendations for industrial psychologists when working in the field of organisational culture
- recommendations for further research based on the limitations and conclusions of the research

## **1.8 CHAPTER DIVISION**

Based on the flow of research reflected in figure 1.2, the following sequence of chapters was determined.

### **Chapter 2: Organisational Culture**

The purpose of this chapter will be to conduct a literature review in order to define organisational culture as a concept, to describe the key aspects of organisational culture and to focus on its measurement. Finally, an appropriate model of organisational culture and a measurement technique will be selected for the research, based on the evaluation of the literature reviewed.

### **Chapter 3: Financial Performance**

This chapter will provide a theoretical perspective on financial performance as a concept, and its key aspects and measurement. The measurement technique and financial performance criteria selected for this research will be described in this chapter. The chapter will conclude with the integration of the concepts of organisational culture and financial performance.

### **Chapter 4: The Empirical Research**

The purpose of this chapter will be to describe the empirical research. The chapter will begin by highlighting the aims of the empirical research and will then explain the research population and sample, the measuring instruments selected, the administration of the questionnaire, data processing, statistical methods and strategies, and the formulation of the research hypothesis.

## **Chapter 5: Results of the Research**

The purpose of this chapter will be to test the research hypothesis by presenting the results of the empirical study.

## **Chapter 6: Conclusions, Limitations and Recommendations**

The research results will be integrated and conclusions will be drawn in this final chapter. The limitations of the study will be explained and recommendations will be made for the field of Industrial Psychology and further research. Finally, the chapter will end with a few concluding remarks to integrate the research.

## **1.9 CHAPTER SUMMARY**

The purpose of this research is to determine whether there is a relationship between organisational culture and financial performance within an investment banking organisation in South Africa. This chapter began by describing the background and motivation for this research. The aim of the study was then discussed and the appropriate research model was described. The paradigm perspective, the research design, the research method and the logical flow of the research were then explained. The chapter concluded by providing an outline of the chapters to follow. Chapter 2 presents the first step in the literature study which conceptualises organisational culture.

## **CHAPTER 2**

### **ORGANISATIONAL CULTURE**

The aim of this chapter is to review the literature regarding the concept of organisational culture and its evaluation. The chapter will address key theoretical concepts relating to organisational culture, how it can be defined and the models used to describe the concept. It will further discuss the role that organisational culture plays in an organisation and will explore ways in which it can be measured.

#### **2.1 INTRODUCTION AND RATIONALE FOR STUDYING ORGANISATIONAL CULTURE**

According to Goffee and Jones (1998), organisational culture is perhaps the single most powerful force for cohesion in the modern organisation. Leaders can influence the way cultures evolve, positioning their organisation for a sustained competitive advantage which cannot be easily copied by competitors. Every working person instinctively knows what organisational culture is and that it drives a common way of doing things amongst colleagues, even if that way is sometimes implicit or unspoken. The ways of doing things can make the difference between a successful organisation and an unsuccessful organisation. Quick (1992) argues that culture is the connective tissue that knits together an organisation's people so that they can succeed in the face of challenges.

Organisations can develop and build great products, market them innovatively and deliver them quickly, but doing this consistently year after year is not an easy task. For decades economists have been trying to determine the elements embedded in truly great companies and have, ironically, found the answers not in hard economic facts but in the nature of relationships within the organisations (Goffee & Jones, 1998). Organisational culture can thus be said to give organisations the competitive edge.

## 2.2 CONCEPTUALISATION OF ORGANISATIONAL CULTURE

Organisational culture has been presented as an enigma which has held the attention of practitioners and theorists worldwide for at least two decades (Ogbonna & Harris, 1998). Conceptualising organisational culture is a difficult task, due to the fact that there is little agreement on what the concept means, how it should be observed and measured, and how it relates to more traditional industrial and organisational psychology theories. The popular use of the concept has further complicated matters by organisations labelling anything, from value statements to common behaviour patterns, as organisational culture (Schein, 1990). During the early 1980s organisational culture was presented as a universal solution to mend almost every organisational problem. However, it is arguable that the complexities and intricacies of the concept of organisational culture have done more to confound executives and researchers than to enlighten them (Ogbonna & Harris, 1998).

Different studies of organisational culture emphasise the significance of diverse components of culture (Harris & Ogbonna, 1997). While acknowledging that culture has different levels, Schein's (1990) conception focuses on underlying and unconscious assumptions. In contrast, Martin and Siehl (1983) argue that greater insight could be gained by the specific examination of values. Moreover, popular managerial literature commonly equates culture with organisational rituals (Deal & Kennedy, 1982) and visible manifestations such as artifacts and creations (Peters & Waterman, 1982). Due to the differences in the conceptualisation of culture, many studies have emphasised shared meaning as the common thread (Harris & Ogbonna, 1997). Hofstede, Neuijen, Ohayv and Sanders (1990), and Trice and Beyer (1993) indicate that, whilst there is no consensus about the definition of culture, most authors will probably agree on the following characteristics of the organisational culture construct:

- Organisational culture is holistic, inter-subjective and emotional rather than strictly rational and analytical.
- Organisational culture is historically determined.
- Organisational culture is related to anthropological concepts.

- Organisational culture is socially constructed.
- Organisational culture phenomena are collective and are shared by members of groups.
- Organisational culture is soft.
- Organisational culture phenomena are primarily ideational in character, having to do with meanings, understandings, beliefs, knowledge and other intangibles.
- Organisational culture is difficult to change.

All of these characteristics of organisations have been separately recognised in the literature of the previous decades. What was new about organisational culture was their integration into one construct.

### **2.2.1 Defining Organisational Culture**

Various definitions of the concept of organisational culture have been given in the context of anthropology, organisational psychology and management theory (Struwig & Smith, 2000). By 1952, 164 definitions of organisational culture had already been identified (Kroeber & Kluckhohn, 1963). Today there are almost certainly even more definitions of organisational culture than there were in 1952. The word culture has many meanings and connotations. When we combine it with the word organisation, we are almost certain to have semantic and conceptual confusion. Schein (1990) indicates that the problem of defining organisational culture derives from the fact that the concept of the organisation itself is ambiguous. One cannot use the existence of cultural phenomena as evidence for the existence of a group. It is important that a given set of people have had enough stability and common history to have allowed a culture to form. He further postulates that culture is what a group learns over a period of time as the group solves its problems of survival in an external environment and its problems of internal integration. Such learning is simultaneously a behavioural, cognitive and emotional process. Any definable group with a shared history can thus have a culture

and there can therefore be many subcultures within an organisation. There will likely be a tendency for integration and consistency of cultures, but the subcultures could be independent and may even conflict with one another.

According to Brown (1995), the definitions available on organisational culture reflect very different understandings of what culture is. A clear distinction can, however, be made between those who think of culture as a metaphor and those who think of culture as an objective entity. In the field of organisation studies, it has long been recognised that metaphors allow us to understand organisations in terms of other complex entities. Historically, two of the most important metaphors have been the machine and the organism. Researchers have used these metaphors in order to point out the ways in which organisations are similar to machines and organisms in their attempts to explain the essence of human organisation. Most commentators, however, have chosen to think of culture as an objective entity. While there is a widespread view that culture is essentially a cognitive phenomenon that resides in the psychology of organisational participants, many theorists argue that patterns of behaviour are equally important. How we choose to define culture has considerable implications for how we attempt to examine and study it. Several definitions of organisational culture are highlighted below.

Schein (1990) defines culture as a pattern of basic assumptions invented, discovered or developed by a given group as it learns to cope with its problems of external adaptation and internal integration, that has worked well enough to be considered valid and therefore is to be taught to new members as the correct way to perceive, think and feel in relation to those problems.

Schwartz and Davis (1981) indicate that culture is a pattern of beliefs and expectations shared by the organisation's members that create norms that powerfully shape the behaviour of individuals and groups in the organisation.

Smircich (1983) indicates that in a particular situation the set of meanings that evolves gives a group its own ethos, or distinctive character, which is expressed in patterns of belief (ideology), activity (norms and rituals), language and other symbolic forms through which organisation members both create and sustain their view of the world and their image of themselves in the world. The development of a worldview with its shared understanding of

group identity, purpose and direction are products of the unique history, personal interactions and environmental circumstances of the group. This worldview is the organisational culture of the group.

Davis (1984) defines culture as the pattern of shared beliefs and values that give members of an institution meaning and provide them with the rules of behaviour in the organisation. It can also be defined as the philosophy that guides an organisation's policy toward employees and customers (Ouchi, 1981; Pascale & Athos, 1981).

Sergiovanni and Corbally (1984) indicate that a standard definition of organisational culture would include the system of values, symbols and shared meanings of a group, including the embodiment of those values, symbols and meanings into material objects and ritualised practices. The "stuff" of culture includes customs and traditions, historical accounts (be they mythical or actual), tacit understandings, habits, norms and expectations, common meanings associated with fixed objects and established rites, shared assumptions and inter-subjective meanings.

Deal and Kennedy (1982) describe corporate culture as the dominant values espoused by the organisation, and Kotter and Heskett (1992) indicate that it provides the behaviour patterns or styles that new employees are automatically encouraged to follow. Frost (1985) indicates that the importance of organisational culture to people is about symbolism, rituals, myths, stories and legends, and about the interpretation of events, ideas and experiences that are influenced and shaped by the groups of people with whom they interact. Alvesson (2002) adds that values and assumptions about social reality are also important to include in a definition of culture. Culture is then understood to be a system of common symbols and meanings. It provides the shared rules governing cognitive and affective aspects of membership in an organisation, and the means whereby they are shaped and expressed (Kunda, 1992).

Notwithstanding the differences in methodological approach applied to the study of organisational culture, it is clear that most contemporary definitions of culture embrace one or more elements of what Pettigrew (1979) describes as a family of concepts. Prominent components of Pettigrew's (1979) family of concepts include values, beliefs, assumptions,

myths, rituals and symbols which organisational members share in common and which guide their everyday survival.

Denison (1990, p.2) presents the following as the definition of organisational culture:

Organisational culture provides the underlying values, beliefs and principles that serve as a foundation for an organisation's management system, as well as the set of management practices and behaviours that both exemplify and reinforce those basic principles. These principles and practices endure because they have meaning to the members of an organisation.

### **2.2.2 The Development of Organisational Culture**

According to Robbins (1993), the concept of culture is a fairly recent phenomenon which has only been used in the last couple of decades. Organisational climate, however, has a longer research tradition due to the fact that it is directly observable and measurable (Schneider, 1975).

During the late 1950s and 1960s, the field of Organisational Psychology began to differentiate itself from Industrial Psychology with a growing emphasis on work groups and whole organisations, and the patterns of norms and beliefs that cut across these groups. As concerns with understanding organisations and inter-organisational relationships grew, concepts from Anthropology and Sociology began to influence the field (Schein, 1990). However, the concept of culture only emerged when researchers found themselves needing to explain the patterns of organisational behaviour and levels of stability in group and organisational behaviour that had not previously been highlighted (Ouchi, 1981). A group of University of Chicago trained sociologists argued persuasively that one cannot fully comprehend organisational dynamics unless one understands the importance of local interpretive structures and ritualised practices (Schein, 1971). Even though these researchers rarely spoke of organisational culture per se, their studies were clearly cultural in orientation and their work strongly influenced a number of academics who later adopted the term explicitly (Barley, Meyer & Gash, 1988). One of the authors who still bears an influence on some aspects of organisational culture today is McGregor. He was among the first to suggest

practical applications of the findings about corporate culture that came from the Hawthorne studies (McGregor, 1960). Argyris (1964) makes a strong case for reducing the amount of organisational control. He postulates that the constraints that organisations place on humans are often self-defeating to organisational goals of effectiveness and efficiency. Likert (1961) emphasises the need for a corporate culture of cooperation and demonstrates that there is a significant correlation between employee attitudes and performance.

It was, however, not until the late 1970s that the notion of culture began to attract explicit and sustained interest. During this period, the term was recast and reintroduced into organisational behaviour from two different streams. The first stream was the writings of a handful of consultants and applied researchers who published their ideas in journals and books aimed primarily at an audience of managers and other practitioners (Drucker, 1973; Ouchi & Price, 1978; Peters, 1978; Silverzweig & Allen, 1976). These authors suggested that if managers pay more attention to organisational norms, ideals and values, as well as heed symbolic aspects of management, they would discover powerful tools for enhancing organisational effectiveness. At approximately the same time, a second more theoretically inclined group of researchers began to hold symposia and publish in academic outlets on the topics of organisational culture and symbolism (Dandridge, Mitroff & Joyce, 1980; Pettigrew, 1979). They drew heavily on the work of anthropologists and symbolic interactionists to argue that organisations should be conceived as having the ontological status of socially constructed systems of meaning.

Both of these groups gathered momentum slowly until 1982, when organisational culture suddenly mushroomed. This was largely due to the back-to-back commercial success of three bestsellers that spoke of culture under various guises, namely *Theory Z*, (Ouchi, 1981) *In Search of Excellence* (Peters & Waterman, 1982) and *Corporate Cultures* (Deal & Kennedy, 1982). In *Theory Z*, Ouchi (1981) focuses on the Japanese way of management and proposes that involved workers are the key to increased productivity. Peters and Waterman (1982) assert that the key to productivity is in the systems within which employees work. This was supported by a research study of 1300 major organisations in the United States. The conclusion of this report is that the dominant theme of American management practice will be the transformation of organisational culture towards more participative organisations that emphasise attention to employee needs as a major corporate strategy (Schuster, 1986). Deal

and Kennedy (1982) argue for the importance of a strong culture in contributing towards successful organisational performance.

Denison and Mishra (1995) highlight that there have been two general approaches to culture research:

- the phenomenological approach, which emphasises the emergent and epiphenomenal nature of organisations, and
- the functionalist approach, which emphasises the predictable impacts of purposive, intentional forms of social organisation

Several authors have attempted to integrate these two approaches in an attempt to improve the theoretical quality of the concept of organisational culture. On an empirical level, there is also increasing attention to the integration of approaches. Denison (1990); Hofstede et al (1990); and Jermier, Slocum, Fry and Gains (1991) each present empirical research that incorporates both qualitative and quantitative data, and acknowledges the importance of both the functionalist and the phenomenological perspectives. Other researchers have built on these principles in an attempt to characterise and compare organisational cultures by means of empirical studies (Denison & Mishra, 1995).

## **2.3 ASPECTS OF ORGANISATIONAL CULTURE**

Certain aspects that are key to understanding the concept of organisational culture are outlined below.

### **2.3.1 Types and Dimensions of Organisational Culture**

Although culture can be said to be unique to each firm in scope and content, some researchers divide organisational culture into various types (Kono, 1990; Rue & Holland, 1986; Silvester & Anderson, 1999). This typology of organisational culture assists in

understanding the ideological conflicts that arise within firms and the deep-seated beliefs that exist about the way in which work should be done.

Handy (1985) classifies four organisational types, which are described by Struwig and Smith (2000) as follows:

- **Power culture.** This culture depends on power and influence by a central figure. There are few rules and procedures; however, the central figure exercises control. Much faith is placed in the individual and little in committees and teamwork.
- **Role culture.** This culture is often stereotyped as bureaucracy. Organisational culture is built around defined jobs, rules and procedures. This culture operates according to logic and rationality, and its strength lies in its functions or specialists. Top management is characterised by a small span of control and the organisation tends to operate within a stable environment where creative or innovative behaviour is discouraged as a rule. This culture type is slow to perceive the need for change and slow to change even if the need is seen. Role cultures offer security and predictability to the individual. Employees who are orderly, punctual and detail oriented are well suited to a role culture environment.
- **Task culture.** This culture is job or project oriented and extremely adaptable. For a particular problem situation, people and other resources can be drawn from various parts of the firm on a temporary basis. The matrix organisation is one structural form of the task culture. Influence within the organisation is based on expertise rather than personal authority.
- **Person culture.** The individual is the central point in the person culture. The organisation exists to help the individual rather than the other way around. Groups of professional people, such as doctors, dentists and architects, are examples of person cultures.

Hofstede and Bond (1988) undertook a study, using IBM data, on employee attitudes gathered over six years in 72 countries. The IBM studies revealed that the 53 cultures that

existed within the organisation across the world differed mainly along the following four dimensions:

- **Power distance.** This is the extent to which the less powerful members of the organisation accept and expect that power is distributed unequally.
- **Individualism versus collectivism.** This describes the extent to which individuals are integrated into groups.
- **Masculinity versus femininity.** This represents the distribution of roles between the sexes. The assertive pole has been referred to as masculine and the nurturing pole as feminine.
- **Uncertainty avoidance.** This refers to man's search for truth and indicates to what extent a culture programmes its members to feel either uncomfortable or comfortable in unstructured situations. People in uncertainty-avoiding cultures are more emotional and are motivated by inner nervous energy. Uncertainty-accepting cultures are more tolerant of behaviour and opinions that differ from their own and try to have as few rules as possible.

Roger Harrison and Charles Handy both developed criteria for more complex cultural issues, which are sufficiently similar to be considered together (Hampden-Turner, 1990). Harrison's culture quadrants, as they relate to Handy's culture types, are described by Hampden-Turner (1990) as follows:

- **Role culture.** This type of culture is highly formalised and centrally directed, and is referred to by Handy as the Apollo culture. Role or Apollo cultures are bureaucratic and, in the case of the factory, scientifically managed by time and motion study.
- **Power culture.** This type of culture is referred to by Handy as the Zeus culture and is seen as a spider in the centre of a web with informal colleagues sharing the same thinking as their leader. The culture is verbal and intuitive.

- **Task culture.** Harrison identifies this type of culture with a matrix as its sign. Handy calls this an Athena culture. This culture consists of inter-disciplinary project groups organised around a task. It is a decentralised way of working but is still formalised by the disciplines that should be joined.
- **Atomistic culture.** This is a decentralised, informal culture. Handy stresses the fact that bonds of respect and affection often characterise this relationship of free spirits united by common interests. Hence he calls it the Dionysus culture after the god of wine, passion, theatre and creativity. Such a culture would be typical of independent experts joined together for mutual convenience or stimulation.

Detert, Schroeder and Mauriel (2000) attempted to identify the specific constructs or dimensions used by researchers to tap the larger concept of organisational culture during the past two decades. In order to do this, they undertook a qualitative content analysis of the existing literature and began to prepare a matrix which integrated the dimensions listed by various authors. As the analysis proceeded, it became evident that the following dimensions seemed to underlie the majority of existing culture concepts:

- **The basis of truth and rationality in the organisation.** Within organisations, people hold various ideas about what is real and not real, and how what is true is ultimately discovered (Schein, 1992). Organisations may consider truth to be a product of systematic scientific discovery or a product of personal experiences and intuition (Sashkin & Kiser, 1993). Various conceptions of what is true and how truth is determined may affect the degree to which people adopt normative or pragmatic ideals (Hofstede et al, 1990).
- **The nature of time and time horizon.** Ideas about time underlie the orientation of many organisations. While Schein (1992) argues that this dimension includes how time is defined and measured, what kinds of time exist and how important time is, others focusing on this dimension centre primarily on the issue of time horizon. In particular, the time horizon of an organisation helps determine whether leaders and other organisational members adopt long-term planning and goal setting or focus primarily on the here-and-now (Denison & Mishra, 1995; Sashkin & Sashkin, 1993; Tucker & McCoy, 1998).

- **Motivation.** The concept of motivation is central to the very nature of what it means to be human (Schein, 1992). It encompasses ideas about whether people are motivated from within or by external forces, whether people are inherently good or bad (Dyer, 1985), whether people should be rewarded or punished, and whether any effort or output can be changed by manipulating others' motivation.
- **Stability versus change, innovation and personal growth.** This dimension relates to the propensities that individuals have towards stability or change (Cooke & Szumal, 1993; Leithwood & Aitken, 1995; Reynolds, 1986). Some individuals are open to change and can be referred to as risk-takers, whereas others are said to have a high need for security (Hofstede et al, 1990). When organisations try to promote risk taking, conceptions of organisational innovation take priority (Denison & Mishra, 1995). In risk-averse organisations the focus is not to disturb the status quo and conceptions about doing or being good enough abound.
- **Orientation to work, task and co-workers.** A number of culture frameworks contain ideas about the centrality of work in human life and about the balance between work as a production activity and a social activity (Hofstede et al, 1990; Schein, 1992). Some individuals view work as an end in itself and their key concern is productivity and work accomplishment (O'Reilly, Chatman & Caldwell, 1991; Reynolds, 1986). Other individuals see work primarily as a means to an end, such as a comfortable life (Rokeach, 1973). For these individuals, productivity is a less important goal than social relationships formed at work (Reynolds, 1986).
- **Isolation versus collaboration or cooperation.** This concept relates to the underlying beliefs about the nature of human relationships and about how work is effectively and efficiently accomplished (Denison & Mishra, 1995; Schein, 1992; Tucker & McCoy, 1988). In some organisations, individuals accomplish almost all work and in others, a premium is placed on collaboration as a means to better decisions and overall output.
- **Control, coordination and responsibility.** This dimension relates to the extent to which control is centralised or shared within the organisation. Where control is

concentrated, there are formalised rules and procedures set by a few, which are intended to guide the behaviour of the majority, and decision making is centralised (Reynolds, 1986; Smart & Hamm, 1993; Smart & St John, 1996). In organisations in which work is loosely controlled, flexibility and autonomy of workers are cherished, there are fewer rules and regulations, and decision making is shared throughout the organisation (Heck & Marcoulides, 1996; Leonard, 1997; Reynolds, 1986).

- **Orientation and focus.** This concept relates to the nature of the relationship between an organisation and its environment. This relationship includes ideas about whether the organisation assumes its controls or is controlled by the external environment (Dyer, 1985). Some organisations assume that the key to success is to focus on people and processes within the organisation, whilst others are focused primarily on external constituents, customers, competitors and the environment (Denison & Mishra, 1995).

### 2.3.2 Models of Organisational Culture

Following the conceptualisation and definition of culture, it is important to explore various models of organisational culture in order to gain a deeper understanding of the integration of the concepts.

#### 2.3.2.1 *Schein's Three Layer Organisational Model*

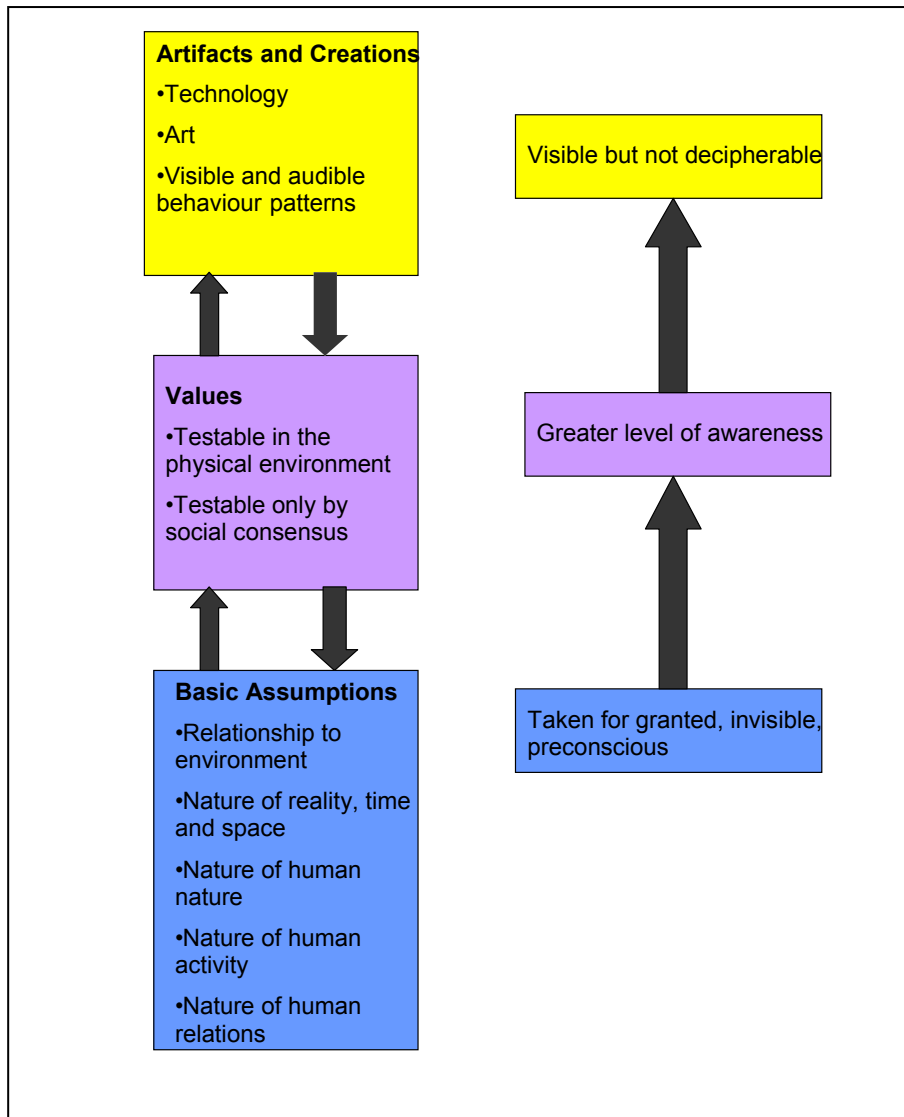
As reflected in figure 2.1, Schein (1985) differentiates between the elements of culture by treating basic assumptions as the essence or the core of culture, and values and behaviours as observed manifestations of the cultural essence. He contends that these are levels of culture and that they should be carefully distinguished in order to avoid conceptual confusion.

**Level 1: Artifacts.** The most visible level of culture is its artifacts and creations, consisting of its constructed physical and social environment. At this level, the researcher can examine the physical space, the technological output, written and spoken language, artistic productions and overt behaviour of the group. It is easy to observe artifacts but it is difficult to figure out

what they mean, how they interrelate and what deeper patterns, if any, they reflect (Schein, 1985).

**Level 2: Values.** Values are conscious, affective desires or wants, and they represent the things that are important to people (Ivancevich & Matteson, 1996). In a sense, all cultural learning ultimately reflects someone's original values, usually the founder of the organisation. The founder has convictions about the nature of reality and how to deal with it, and will propose a solution based on those convictions. If the solution works and the group has a shared perception of that success, the value gradually starts a process of cognitive transformation into a belief and, ultimately, an assumption. As they become assumptions, they drop out of consciousness, just as habits become unconscious and automatic. However, many values remain conscious and are explicitly articulated, because they serve as the moral function of the guiding members of the group in how to deal with certain situations (Schein, 1985).

**Level 3: Basic Underlying Assumptions.** When a solution to a problem works repeatedly, it comes to be taken for granted. What was once a hypothesis, supported only by a hunch or a value, is gradually treated as a reality. Basic assumptions become so taken for granted that one finds little variation within a cultural unit (Schein, 1985). Basic assumptions guide behaviour and tell people how to perceive, think and feel about work, performance goals, human relationships and the performance of colleagues (Ivancevich & Matteson, 1996). Basic assumptions are not generally confronted or debated, and can have the propensity to distort data in certain situations.



**Figure 2.1: Schein's Three-Layer Organisational Model (Schein 1985, p14)**

#### 2.3.2.2 Kotter and Heskett's Culture Model

Kotter and Heskett (1992) describe culture as having two levels which differ in terms of their visibility and their resistance to change. At the deeper, less visible level, culture refers to values that are shared by the people in a group and that persist over time even when the group membership changes. These notions about what is important in life can vary greatly from company to company. At this level culture can be extremely difficult to change, partly because group members are often unaware of the values that bind them together. At the more visible level, culture represents the behaviour patterns or style of an organisation that new employees are automatically encouraged to follow. Culture in this sense is still difficult

to change, but not nearly as difficult as the level of basic values. Each level of culture has a natural tendency to influence the other, as indicated in figure 2.2. This may be most obvious in the case of shared values influencing a group's behaviour, such as its responsiveness to customers. Causality can, however, flow in the opposite direction, with behaviour and practices influencing values.

Kotter and Heskett (1992) further highlight that culture is not synonymous with a firm's strategy or structure, although the terms are sometimes used interchangeably because they play an important part in shaping people's behaviour. The beliefs and practices called for in a strategy may, or may not, be compatible with a firm's culture.

### *2.3.2.3 Hofstede's Manifestations of Culture*

Hofstede et al (1990) classify the manifestation of culture into four categories, namely symbols, heroes, rituals and values (as shown in figure 2.3). Symbols are words, gestures, pictures or objects that carry a particular meaning within a culture. Heroes are persons, alive or dead, real or imaginary, who possess characteristics highly prized in the culture and who thus serve as models for behaviour (Wilkins, 1984). Rituals are collective activities that are technically superfluous but are socially essential within a culture, and can be considered to be carried out for their own sake. Hofstede (1980) describes these layers as being similar to the successive skins of an onion: from shallow superficial symbols to deeper rituals. Symbols, heroes and rituals can be subsumed under the term practices because they are visible to an observer, although their cultural meaning lies in the way they are perceived by insiders. The core of culture, as can be seen in figure 2.3, is formed by values, in the sense of broad, non-specific feelings of good and evil, beautiful and ugly, normal and abnormal, rational and irrational, that are often unconscious and rarely discussable. These values cannot be observed as such, but are manifested in alternatives of behaviour (Hofstede et al, 1990).

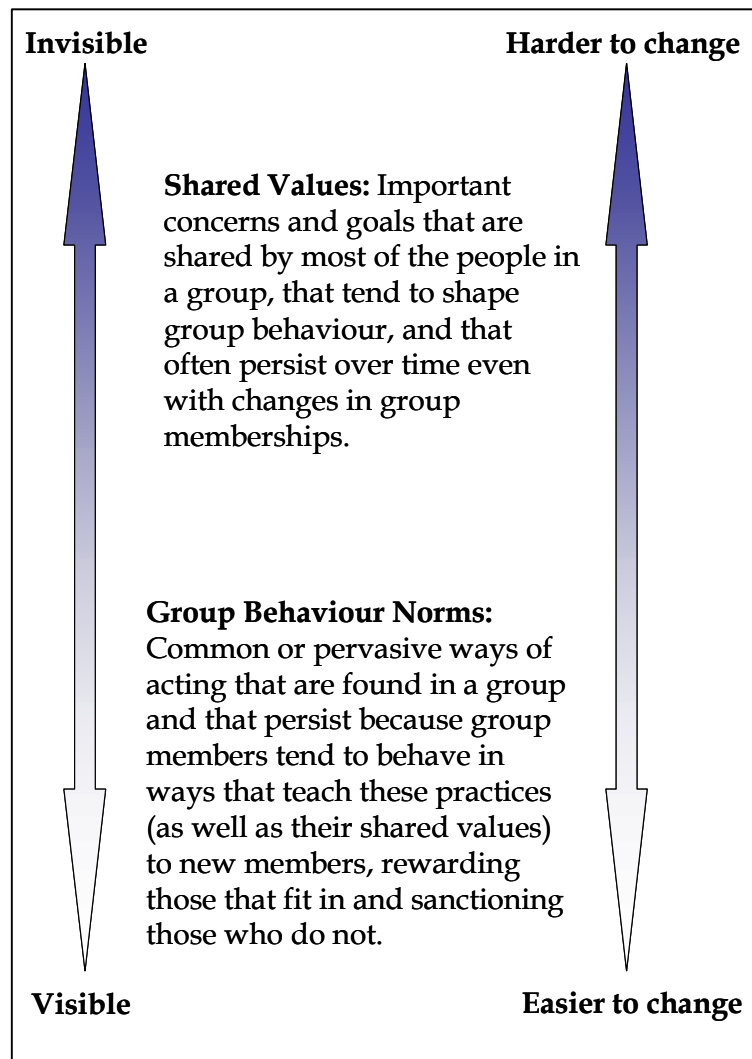
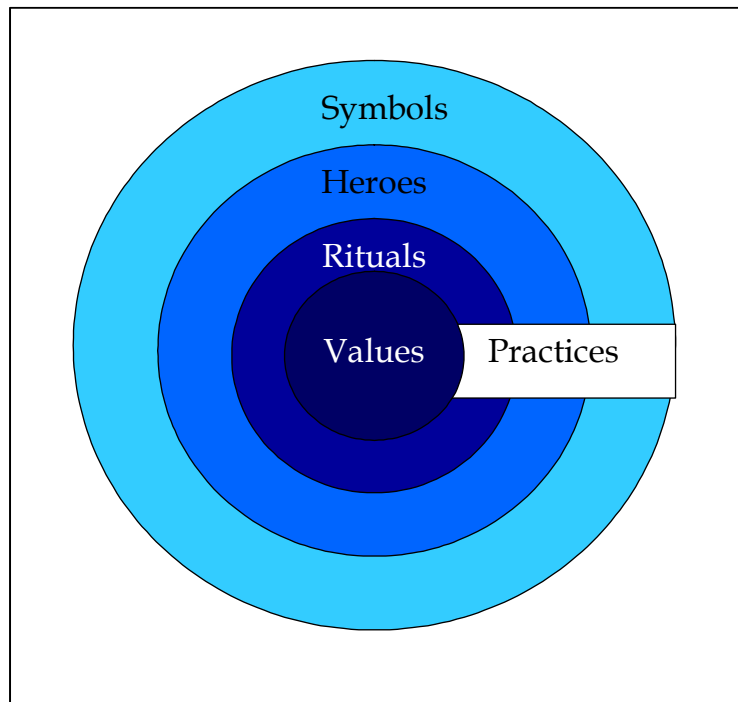


Figure 2.2: Kotter and Heskett's Culture Model (Kotter & Heskett 1992, p5)



**Figure 2.3: Manifestations of Culture: from Shallow to Deep (Adapted from Hofstede, 1980)**

#### 2.3.2.4 Denison's Culture and Effectiveness Model

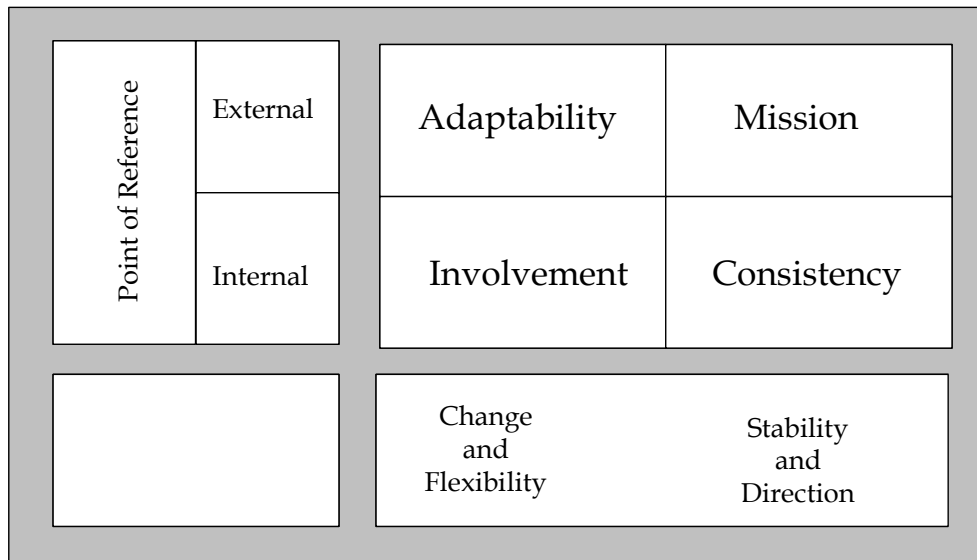
Denison's (1990) model of culture and effectiveness presents the interrelations of an organisation's culture, its management practices, its performance and its effectiveness. The model highlights the importance of linking management practices with underlying assumptions and beliefs when studying organisational culture and effectiveness. The values and beliefs of an organisation give rise to a set of management practices, which are concrete activities usually rooted in the values of the organisation. These activities stem from and reinforce the dominant values and beliefs of the organisation. There are four key cultural traits.

- **Involvement.** This trait consists of building human capability, ownership and responsibility. Organisational cultures characterised as highly involved strongly encourage employee involvement and create a sense of ownership and responsibility. They rely on informal, voluntary and implied control systems, rather than formal, explicit, bureaucratic control systems (Denison, 1990).

- **Consistency.** Consistency provides a central source of integration, coordination and control. Consistent organisations develop a mindset of organisational systems that create an internal system of governance based on consensual support (Denison, 1990).
- **Adaptability.** Adaptability is the ability to translate the demands of the business environment into action. Organisations hold a system of norms and beliefs that support the organisation's capacity to receive, interpret and translate signals from its environment into internal behaviour changes that increase its chances for survival and growth (Denison, 1990).
- **Mission.** This trait consists of the definition of a meaningful long-term direction for the organisation by defining a social role and external goals for the organisation. It provides a clear direction and goals that serve to define an appropriate course of action for an organisation and its members (Denison, 1990).

Figure 2.4 shows the integration of these four traits and depicts that involvement and consistency primarily address the internal dynamics of the organisation, but do not address the interaction of the organisation with the external environment. Adaptability and mission, in contrast, take as their focus the relationship between the organisation and its external environment. Thus the four concepts can be divided into two pairs, one with an internal focus and the other with an external focus. The four elements can also be divided in another way: Involvement and adaptability form one pair, emphasising the organisation's capacity for flexibility and change. Consistency and mission, in contrast, are oriented towards stability.

Figure 2.4 shows the high-level traits that are measured through the survey, but does not show the underlying management practices and values. When displayed along the four axes (as reflected in chapter 4, figure 4.1) the model shows the beliefs and assumptions at the core (Denison, 1990).



**Figure 2.4: Denison's Culture and Effectiveness Model (Denison 1990, p15)**

### 2.3.3 The Role of Culture in the Organisation

According to Brown (1995), many researchers emphasise that culture is an asset and that a large number of functions in the organisation can be attributed to organisational culture. Hampden-Turner (1990) suggests that the culture of an organisation defines appropriate behaviour and bonds, motivates individuals and asserts solutions where there is ambiguity. However, some authors such as Sathe (1985) argue that an organisation's culture can also be a liability. This is because shared beliefs, values and assumptions can interfere with the needs of the business and lead people to think and act in inappropriate ways.

Brown (1995) indicates that the following are the more widely commented upon functions of culture:

- **Conflict reduction.** Culture has been described as the cement or glue that bonds an organisation together, and plays a large role in fostering social cohesion. A common culture promotes consistency of perception, problem definition, evaluation of issues and opinions, and preferences for action. Given that there are strong tendencies for organisations to be highly conflictual and antagonistic, culture is a useful source for integration and consensus.

- **Coordination and control.** Culture in the form of stories and myths provide the agreed norms of behaviour or rules that enable individuals to reach agreement on how to organise in general, and the process by which decisions should be reached in particular. Where a complex decision has to be taken, organisational culture may even help narrow the range of options to be considered. Culture is also a powerful means of control in organisations in the form of values, beliefs, attitudes and, especially, basic assumptions. Cultural preconceptions effectively delimit the extent to which employees are free to express their individuality in a way which is far more subtle and beguiling than an organisation's formal control systems, rules and procedures.
- **Reduction of uncertainty.** The transmission of learning or cultural knowledge to new recruits is an important function of culture. It is through the adoption of a coherent culture that members learn to perceive reality in a particular way, to make certain assumptions about what things are important, how things work and how to behave. The adoption of a cultural mind-frame is an anxiety-reducing device which simplifies the world and makes choices and rational action seem possible. All organisations are confronted with overwhelming uncertainty, conflicts of interest and complexity. However, through a culture's myths, metaphors, stories and symbols, an organisation is able to construct its own world. This is usually a world in which complexity is reduced, uncertainties are neutralised and the organisation's ability to exert control over its own activities is maximised.
- **Motivation.** Organisational culture can be an important source of motivation for employees and thus has a significant influence on the efficiency and effectiveness of the organisation. Organisations often attempt to use extrinsic factors to motivate employees, but motivational attempts are far more effective if employees are also motivated by intrinsic factors. Organisational culture is of great importance here, as an appropriate and cohesive culture can offer employees a focus of identification and loyalty, foster beliefs and values which encourage employees to think of themselves as high performers doing worthwhile jobs, and promulgate stories, rites and ceremonies which create feelings of belonging.

- **Competitive advantage.** A strong organisation culture can be a source of competitive advantage because a strong culture promotes consistency, coordination and control, reduces anxiety, enhances motivation, facilitates organisational effectiveness and therefore improves the chances of being successful in the marketplace.

Schein (1985) highlights that the two basic functions of organisational culture are to ensure survival and adaptation to the external environment, and to ensure internal integration. The issues or problems of external adaptation basically specify the coping style that any system should be able to maintain in relation to its changing environment:

- **Mission and strategy.** Every organisation should develop a shared concept of its core mission or reason of existence, strategy, its primary tasks and latent functions.
- **Goals.** Developing consensus on goals as derived from the core mission.
- **Means.** Developing consensus on the means to be used to attain the goals, such as organisation structure, division of labour, reward system and authority system.
- **Measurement.** Developing consensus on the criteria to be used in measuring how well the group is doing in fulfilling its goals, such as information and control systems.
- **Correction.** Developing consensus on the appropriate remedial or repair strategies to use if goals are not met.

Schein (1985) further highlights that the process of becoming a group is simultaneously the growth and maintenance of relationships among a set of individuals who are doing something together, and the actual accomplishment of whatever they are doing. What keeps a group together, and its reason for existence or external adaptation function, is quite different from the processes of creating that togetherness -- processes that make individuals capable of accomplishing things that individuals cannot accomplish alone. The internal issues that should be dealt with by any group if it is to function as a social system are as follows:

- **Common language and conceptual categories.** If members cannot communicate with and understand each other, a group is impossible by definition.
- **Group boundaries and criteria for inclusion and exclusion.** One of the most important areas of culture is the shared consensus on who is in and who is out, and the criteria used to determine membership.
- **Power and status.** Every organisation should work out its pecking order and its criteria for how one gets, maintains and loses power. Consensus in this area is crucial to help members manage feelings of aggression.
- **Intimacy, friendship and love.** Every organisation should work out its rules of the game for peer relationships, for relationships between the sexes, and for the manner in which intimacy and openness are to be handled in the context of managing the organisation's tasks.
- **Rewards and punishments.** Every group should know what its heroic and sinful behaviours are, what gets rewarded with property, status and power, and what gets punished in the form of withdrawal of the rewards and, ultimately, excommunication.
- **Ideology and religion.** Every organisation, like society, faces unexplainable events, which should be given meaning so that members can respond to them and avoid the anxiety of dealing with the inexplicable and uncontrollable.

Culture does more than solve internal and external problems. It also serves the basic function of reducing anxiety that humans experience when they are faced with cognitive uncertainty or overload. For each of the internal and external problems identified above, humans would experience high levels of anxiety if they could not sort out, from the mass stimuli, those that are important and those that are not. Cultural assumptions can be thought of as a set of filters or lenses that help individuals to focus on and perceive the relevant portions of their environment. Once cultural solutions are in place, individuals can relax to some extent. One reason that culture change is resisted is that giving up the assumptions that create stability is

inherently anxiety producing, even though the different assumptions may be more functional (Schein, 1985).

### **2.3.4 Changing Organisational Culture**

There can be little doubt that one of the major tasks that faced organisations in the late twentieth century was managing change. Although change has always been, and should always be, an ever-present part of organisational life, many commentators believe that the pace of change and complexity of the issues involved is now greater than ever before (Burnes & James, 1994).

Greiner (1982) describes the process of culture change as a grey area that has not yet been properly explored and where an explanation is sought for two patently contradictory aspects of the life of the firm. Gagliardi (1986) highlights that, on the one hand, culture is described as a tenacious and unalterable phenomenon. The more deeply rooted and diffuse the values of the firm, the more tenacious and unalterable the culture. A culture can be forced to take a new direction, but at an extremely high cost to the organisation. As soon as the pressure is relaxed, however, it will tend to return to its original state and attitude. On the other hand, organisations evolve and, when cultural identity is being modified, there is always a charismatic leader or elite that leads the group towards a new, broader or different way of doing things. Many researchers accept the fact that leaders play a major role in the creation of culture, however their capacity to influence cultural change is not universally accepted. Burnes and James (1994) explain that cultures prescribe certain forms of behaviour or allow behaviour to be judged as acceptable or not. The role of culture in a situation of change is to confirm or deny the legitimacy of the new arrangements. Responsiveness to the leadership's desire to change is thus often based on whether there is alignment with current beliefs and values.

Schein (1985) describes the creation of organisational culture as a dynamic learning process. Taking his view into account, it is of crucial importance to establish whether culture does in fact change when experience indicates that its basic assumptions are no longer workable and problems of external adaptation and internal integration remain unsolved. Gagliardi (1986) indicates that there may be two main reasons why an organisation does not abandon one of

its deeply rooted values when working orientations inspired by it no longer solve the problems for which it was created. Firstly, to admit that orientation is inadequate to the tasks rekindles anxiety and, secondly, it is rarely possible to demonstrate effectively that a given cause produces a given effect. The reason proposed by Gagliardi himself, however, is that if a value is deeply rooted in the culture of an organisation, it is not abandoned when the behaviour inspired by it no longer solves existing problems, for the simple reason that it is a value and, as such, is not considered as being open to criticism and discussion.

Every organisation has a primary strategy, which is the maintenance of its cultural identity, and a series of secondary strategies, which are instrumental to or expressive of the primary strategy. The primary strategy is not usually formulated explicitly and is linked to the organisation's basic values. The more distinctive the culture, the more coherently the primary strategy is pursued. In the light of this, it can be said that organisational cultures usually change in order to remain what they have always been. When methods that have traditionally been used to manage problems of external adaptation and internal integration are seen to be ineffective, a search for alternative action is begun within the organisation. This will be carried out more completely, rapidly and effectively, one presumes, in organisations that have a strongly distinctive culture. The firm should change in order to preserve its cultural identity. The search for and the choice of alternative practices that are consistent with values, and the effort to preserve the organisation's particular competence, is not always an easy task. It usually requires managerial action. The anxiety produced by changes and the reluctance to face change should be overcome, and rational analysis and information exchange processes are needed in order to adjust for the uneven distribution of information about available alternatives. Finally, the interests of the individuals and groups involved in the change may require negotiation and mediation (Gagliardi, 1986).

According to Kotter and Heskett (1992), cultures can be very stable over time but never static. Crises sometimes force a group to re-evaluate some values or a set of practices. New challenges can lead to the creation of new practices. Turnover of key members, rapid assimilation of new employees, diversification into very different businesses and geographical expansion can all weaken or change a culture.

When cultures are strong, they are naturally more difficult to change and may not respond immediately to changes in business strategy. If the leaders of the organisation want new

behaviour and values to be adopted in order to ensure the survival of the organisation, they cannot merely formulate a strategy and expect it to be implemented if it involves a change in culture. The members of the organisation will have to experience an initial incidence of success before they will be convinced that the new direction and associated values, actions and behaviours required are acceptable. After multiple incidences of success, they will likely be able to see the value of the new practice and will be more willing to change behaviours accordingly. This can be referred to as the virtuous circle, when a culture adapts and responds positively to environmental changes in order to ensure its survival (Kotter & Heskett, 1992). Gagliardi (1986) explains that a virtuous circle may become a vicious one when alternatives for action have been explored and have been found unsuitable for solving problems. The obsolescence of the organisation's distinctive competence may be denied and lack of success may be blamed on uncontrollable external causes or the behaviour of certain individuals or groups in the organisation. In such cases, difficulty in discovering and developing appropriate alternatives stems from the fact that the culture's potential for action in those specific circumstances has been exhausted. The organisation should thus change its cultural identity in order to survive. However, the experience of failure may not even lead the organisation to explore alternative routes which are different to the organisations basic sanctioned values. For this reason, many organisations will die rather than change.

Kotter and Heskett (1992) highlight that the ability to adapt may be dependent on the culture itself and cultures that are bureaucratic, risk-averse and reactive are likely to be less responsive to change. On the other hand, adaptive cultures involve risk-taking, trusting and a proactive approach to individual and organisational life. Members actively support one another's efforts to identify all problems and implement workable solutions. There is a shared feeling of confidence and the members believe that they can effectively manage any new problems or opportunities.

Gagliardi (1986) highlights three conditions that are necessary for change:

- There should be no antagonism between the values associated with the new competences the organisation is trying to introduce, and its traditional assumptions and values.

- The organisation should collectively experience success in exercising the new competences.
- The leadership of the organisation should promote the mythical interpretation of success after it has happened.

Burnes and James (1994) indicate that it is necessary to recognise that organisational changes which challenge or undermine the cultural status quo can, if managed badly, have severe repercussions. Brown (1995) indicates that culture change is difficult to realise because most employees in an organisation have a high emotional stake in the current culture. People who have been steeped in the traditions and values of an organisation, and whose philosophy of life may well be caught up in the organisation's cultural assumptions, will experience considerable uncertainty, anxiety and pain in the process of change. For many middle and senior managers change may also seem to bring a loss in status, loss of power over resources and less security. Even if there are personal gains to be made from altering the habits of a lifetime, these are likely to be seen as potential or theoretical only in comparison to the certainty of the losses. These multiple sources of perceived risk will usually result in resistance to change which is often culturally based, gradually leading to the failure of the culture change strategy.

It has been argued that one of the key methods of avoiding severe repercussions and resistance to change is to involve those affected in assessing the need for and implementing change. When a problem or opportunity arises which require change, employees have much to contribute in terms of defining whether change really is required and, if so, what form it should take. The need to draw on staff knowledge is relatively straightforward and can, in many instances, be accomplished by consultation and communication. The second main reason to involve staff is to gain their commitment. The aim of this is to overcome potential resistance to, and develop a positive attitude towards, change. Unless staff have a positive attitude, success is unlikely to be achieved (Burnes & James, 1994). It is apparent that if culture change is to be induced, it can be most effectively accomplished by means which rely on intrinsic motivation or the internalised commitment of employees. Intrinsic motivators attempt to persuade employees of the inherent worth of the new culture by pointing out the negative consequences of not changing and the advantages of adopting the new beliefs, values and assumptions (Brown, 1995).

## 2.4 MEASURING ORGANISATIONAL CULTURE

It is important that an organisation understands the current status of its culture before deciding to embark on any strategic change or productivity improvement interventions. The best way to gain this understanding is by measuring the culture.

The growing interest in the concept of corporate culture during the late 1970s and 1980s led naturally to the development of different self-report questionnaires to measure it. However, most of the early studies of organisational culture relied almost exclusively on qualitative methods. Advocates of qualitative methods provided two main justifications for their choice. The first one is based on the presumed inaccessibility, depth or unconscious quality of culture (Xenikou & Furnham, 1996). Schein (1985) suggests that the most important level of organisational culture is the basic assumptions which exist at the preconscious level. These preconscious assumptions can be traced through a complex interactive process of joint inquiry between insiders and outsiders. Furthermore, he argues that quantitative assessment conducted through surveys is unwise because it reflects conceptual categories and not the respondents' own, presumingly unwarranted, generalizability. The second point concerns the possible uniqueness of an organisation's culture, which is such that an outsider cannot form acceptable questions or measures.

Smircich (1982), on the other hand, conceptualises organisational culture as a particular set of meanings that provides a group with a distinctive character which, in turn, leads to the formulation of a social reality unique to members of a group and, as such, makes it possible for standardised measures to tap cultural processes. Siehl and Martin (1988) indicate that there are good reasons for using qualitative methods in investigating organisational culture, but the advantages may be bought at a cost as the data collected usually cannot form the basis for systematic comparisons. Fundamental theoretical aspects of the concept of organisational culture can be tested only by comparisons across organisations or departments. In order to understand the core aspects of culture, it is often necessary to compare the individual responses of members and the extent of their communality. Moreover, in order to examine if an organisation has subcultures with distinctive values and practices, data can be collected from different departments of the same organisation so that comparisons can be made. These two central theoretical questions cannot be answered until culture can be measured with the same robust, reliable, sensitive and valid instrument that

allows systemic comparisons. Systemic comparisons are exceedingly difficult to be made when only qualitative data is available. Furthermore, some qualitative data is non-parametric, precluding any multivariate analysis of the data which almost always requires it (Xenikou & Furnham, 1996).

Rosseau (1990) argues that different methods of measurement should be used depending on the element of culture to be examined. As the elements of culture become more conscious, such as values and behavioural norms, or observable, such as artifacts, quantitative measures can be used. As the definitions of organisational culture focus on either values or behaviours, the available measures concentrate on two different manifestations of culture. As a consequence, some corporate culture test constructors have focused on values and others on behaviours. There are a number of studies in organisational culture that have combined quantitative and qualitative approaches in investigating cultural phenomena. These studies generally combine the use of a questionnaire with in-depth interviews.

Xenikou and Furnham (1996) highlight that by no means are all researchers convinced that questionnaires can, and therefore should, be used to measure corporate culture. Those who prefer the interpretation rather than the measurement of culture, naturally go about studying it in different ways. However, the use of organisational culture questionnaires is on the increase not only by researchers but also by managers themselves, as they are interested in understanding and changing corporate culture. Hence it becomes important to examine the psychometric properties of the measures used.

Several researchers have adopted an empirical research approach in an attempt to measure organisational culture quantitatively. Harrison (1975) developed a questionnaire based on his typology of cultures, which was employed in a study of organisational culture by Ott (1989). Other culture questionnaires include Cooke and Lafferty's (1989) Organisational Culture Inventory, the Organisational Culture Profile (O'Reilly et al, 1991) and the Organisational Norms Opinionnaire (Alexander, 1978).

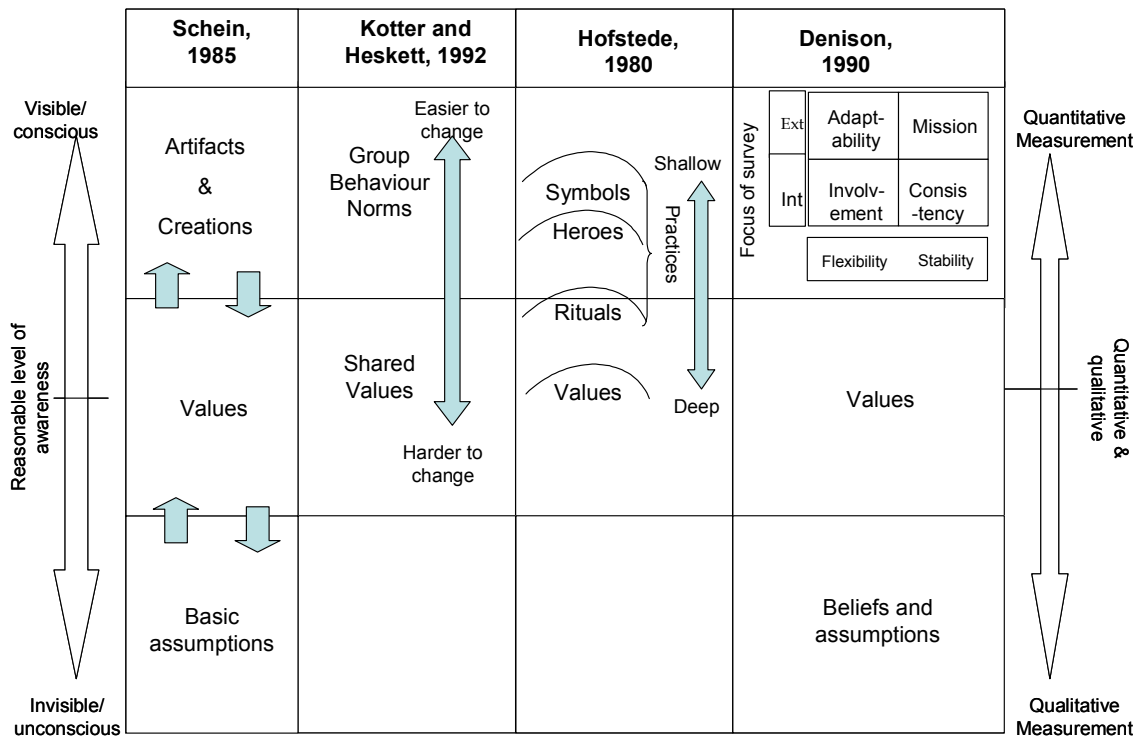
The Denison Organizational Culture Survey, developed by Daniel Denison and William Neale, was preceded by one of the earliest quantitative studies examining the relationship between culture and performance. The survey provides a way to link organisational culture to tangible bottom-line performance measures such as profitability, quality, innovation,

market share, sales growth and employee satisfaction (Denison, 2000a). Denison (1990) found that four cultural traits can have a significant impact on financial performance, namely involvement, adaptability, consistency and mission. The survey thus seeks to measure each of these cultural traits and to assess an organisation's progress toward achieving a high-performance culture.

## **2.5 MOTIVATION FOR USING THE DENISON ORGANIZATIONAL CULTURE MODEL AND QUANTITATIVE METHODS TO DETERMINE ORGANISATIONAL CULTURE**

After considering the various aspects of organisational culture described above, a choice had to be made as to which model and measurement technique should be selected for the purpose of this study. It was decided that a quantitative approach to the measurement of culture should be adopted, due to the levels of objectivity required for this research and the ability to make comparisons between business unit cultures and levels of financial performance. Using quantitative techniques is also necessary to determine whether any statistical relationships exist between the culture profile and the financial performance of the research organisation.

When examining the different models of culture as shown in figure 2.5, the Denison model (Denison, 1990) was the only model that placed a strong emphasis on the strategic orientation of the organisation. In addition to this, the model focuses not only on internal behaviours, but also defines interactions with the external environment which are critical when exploring the link to financial performance. Financial performance as well as the operations of the organisation are critical to external parties such as investors, shareholders and analysts. In exploring the relationship between organisational culture and financial performance it is thus imperative to examine the external environment as an element of the model selected. In addition to this, extensive research has already been undertaken in linking the Denison organisational culture model to certain financial performance measures, and these clear links between dimensions of organisational culture and long-term financial success make the model easily understandable for business managers (these links will be described in chapter 4).



**Figure 2.5: Integration of the Culture Models Reviewed in the Literature**

When comparing the Denison organisational culture model to the models of Kotter and Heskett (1992), Hofstede et al (1990) and Schein (1985), as shown in figure 2.5, it is clear that the Denison model integrates with the other models in that it recognises that there are deep-seated assumptions and beliefs, and a set of more visible management practices and behaviours. One of the key advantages of using this model is that a questionnaire was designed, called the Denison Organizational Culture Survey, which measures the key dimensions of culture as reflected in the model. Because a quantitative approach to measurement will be followed in the research, it is preferable for the model to have an associated valid and reliable questionnaire. Quantitative measurement also requires the assessment of more visible cultural traits and, thus, the focus of the model on observable management practices and behaviours is appropriate for this study.

## **2.6 CHAPTER SUMMARY**

This chapter began with the rationale for studying organisational culture and an overview of its conceptualisation, how it can be defined and the development of the concept. In order to understand the concept of culture in more detail, the components of culture were then described, including the types of culture and theoretical models that are used to describe its various components. The role that culture plays in an organisation was also described and the debate about the ability to change the culture of the organisation was touched on. The measurement of organisational culture was then discussed and the chapter concluded with the motivation for the selection of the Denison organisational culture model and a quantitative approach to measurement.

## **CHAPTER 3**

### **FINANCIAL PERFORMANCE**

The aim of this chapter is to review the literature regarding the concept of financial performance and its evaluation. The chapter will address the key theoretical concepts related to the determination of financial performance and the relevant financial calculations that can be applied to measure this performance. It will also discuss the financial measures that are of key importance to this research.

#### **3.1 INTRODUCTION AND RATIONALE FOR STUDYING FINANCIAL PERFORMANCE**

People are obsessed with measuring performance in every field of human endeavour (Lothian, 1987). Mothers are concerned with their infants' development (usually measured in weight and length) or their children's marks at school, athletes are concerned about their time recorded, and shareholders are concerned with the share price of a company that they have invested in. These are but a few examples of the attempt to evaluate performance through measurement, and organisational performance is no exception to this rule.

Keeping a large organisation vital and responsive is becoming increasingly difficult as competition and globalisation become the order of the day (Peters & Waterman, 1982). Many organisations try to respond by implementing new strategies and plans, restructuring and changing their budgets accordingly. Ultimately, if the organisation is to survive in the long run, sound financial management is required in order to keep the organisation running. If the organisation cannot sustain itself financially, its losses will eventually lead to its demise.

#### **3.2 CONCEPTUALISATION OF FINANCIAL PERFORMANCE**

According to Gitman (1991), finance can be defined as the art and science of managing money. Virtually all individuals and organisations earn or raise money, and spend or invest money. Finance is concerned with the process, institutions, markets and instruments

involved in the transfer of money among and between individuals, businesses and governments.

According to Haller (1985), financial information focuses on the measurement of economic transactions. In any economy, irrespective of whether it is a free market, state controlled or mixed economy, economic activity is constantly measured and the information is used to encourage changes in the flow of resources. In the micro-economic setting of a business enterprise, owners and managers maintain the financial records. These records measure the monetary value of resources involved in the various transactions resulting from their decision to use resources for their particular products and services. As organisations implement their business objectives, they channel resources, skills, materials and equipment to their activities and convert them into new goods and services that are of value to others. Any given activity involving purchases and sales can be accounted for. The accounting books of an organisation are used to record and segregate transactions, and are presented in the universal language of accounting terminology. Financial measurements of the effects of past decisions are reflected and future investment decisions are highly influenced by these statements.

According to Haller (1985), lenders and owners are the sources of business financing. Owners may place their funds directly into an enterprise in the form of shareholder capital, in a corporate form or as partners in a partnership relationship. Marx, De Swart and Nortjé (1999) emphasise that the medium to long-term financial goals of both the owners and management of an organisation should be to increase the value of the firm, thereby increasing the wealth of the owners. This can be accomplished either by investing in assets that will add value to the firm or by keeping the firm's cost of capital as low as possible. The short-term financial goal, however, should be to ensure the profitability, liquidity and solvency of the firm.

### **3.2.1 Profit Maximisation versus Wealth Maximisation**

The objective of the owners of an organisation is to generate profit and to maximise the shareholders' wealth. Profitability can be defined as the ability of the organisation to generate revenues that will exceed total costs by using the firm's assets for productive

purposes (Marx et al, 1999). In order to achieve profit maximisation, the organisation should only take those actions that are expected to make a major contribution to the overall profits. Thus, for each alternative being considered, the one expected to result in the highest monetary return should be selected. Profit maximisation, however, ignores the timing of returns, the cash flows available to shareholders and risk (Gitman, 1991). Lumbly (1984) states that profit is an accounting concept and, in very general terms, represents the increased wealth of a company that has been achieved by management within the confines of the accounting year. Profit is thus only a very rough approximation of increased wealth.

The goal of the financial manager is to maximize the wealth of the owners for whom the firm is being managed. The wealth of corporate owners is measured by the share price of the stock, which in turn is based on the timing of returns, their magnitude and their risk. When considering alternative decisions or actions, the one that will be expected to increase share price by the greatest percentage should be selected if the aim is to maximize shareholder wealth (Gitman, 1991).

Marx et al (1999) cite the following reasons for wealth maximisation being preferable to profit maximisation:

- Shareholders expect to receive a return in the form of dividend payments and increases in the value of their contribution to the organisation. It is thus the market price of the organisation's shares that reflects an owner's wealth in the firm at any point in time and the financial manager's goal should therefore be to maximize the market price of the shares and, thus, the shareholder's wealth.
- Wealth maximisation is based on longer term prospects than profit maximisation.
- Profit maximisation does not take risk into consideration. A basic premise of financial management is that there is a trade-off between risk and return, and shareholders should thus expect to receive higher returns for higher risk investments.

Many corporate strategies have a negative impact on short-term earnings and short-term cash flow, but offer significant potential for long-term gains. Research and development, joint ventures and large capital expenditures are examples of these projects. Despite the

negative effects of such investments on short-term earnings, it has been found that the stock market reacts favourably to announcements that companies are undertaking these types of projects. This indicates that shareholders recognise and value future cash flows and not just short-term earnings (Ehrhardt, 1994).

### **3.2.2 Investment, Financing and Dividend Policy**

Financial managers are concerned with the investment decision, the financing decision and the dividend decision, that is, how the investments required should be financed and to what level. Their decisions are crucial if the organisations that they represent are to satisfy their financial goals. Each of these decisions has an effect on the value of the firm and hence the wealth of its shareholders (Collier et al, 1989).

To invest means to acquire an interest in productive opportunities and to create economic value, either directly or indirectly. The financing decision requires determining from what source funds should be obtained and to what level. These various sources of funds represent the capital structure of the firm. The principle sources of funds are either provided by those who have an equity interest, the shareholders, or those who loan funds at predetermined rates of interest, termed debt capital. If a firm's portfolio of investments fails to generate the predicted levels of return, debt interest takes a higher proportion of available cash inflows, to the detriment of the shareholders. If the firm's investment strategy generates higher than predicted cash flows, the shareholders will derive the benefit as their interest repayments are at fixed rates. Dividend policy also represents a financing decision, since to pay out cash in the form of dividends to shareholders reduces the amount available for reinvestment. The optimal dividend policy strikes a balance between current dividends and current growth, and thereby maximizes the firm's share price (Collier et al, 1989).

Investment, financing and dividend decisions often have many ramifications. Management should consider not only the timing and risk of the income stream from the investment, but also the form of the returns. They have to decide whether profit maximisation will result in stock price maximisation or whether another form of return should be considered, such as earnings per share (Campsey & Brigham, 1985).

### **3.2.3 Liquidity**

Marx et al (1999) describe liquidity as the organisation's ability to satisfy its short-term obligations as they become due. This can either be done by accelerating cash flows from debtors, by delaying cash flows by paying creditors as late as possible, or by not over-investing in inventory and by stocking a range of products that are in demand and have a quick turnover.

### **3.2.4 Solvency**

Solvency relates to the extent to which the organisation's assets exceed its liabilities (Marx et al, 1999). This effectively means that the organisation should own more than it owes.

The literature discussed above indicates that an organisation that practices sound financial management should focus on maximising the wealth and profitability of the organisation, making the right investment and financing decisions, and ensuring that it has a sufficient cash flow to meet its short-term obligations.

## **3.3 ASPECTS OF FINANCIAL PERFORMANCE**

Certain aspects that are key to the understanding of financial performance as a concept are outlined below.

### **3.3.1 The Fundamental Principles of Financial Management**

When considering whether a firm is performing at its optimum level financially, several factors should be taken into consideration. According to Marx et al (1999), financial management is based on the following key principles of cost-benefit, risk-return and the time-value-of-money.

### 3.3.1.1 *The Cost-Benefit Principle*

Sound financial decision making requires an analysis of the total costs and the total benefits. The benefits should be greater than the costs for any financial decision. This principle is useful to obtain clarity about the objective to be attained, to explore alternatives, and to calculate the costs and benefits of those alternatives in order to make a decision about the most appropriate course of action (Marx et al, 1999).

### 3.3.1.2 *The Time-Value-of-Money Principle*

The time-value-of-money principle invokes the concept of opportunity cost. If a person invests money in a business, he or she forfeits the opportunity of earning interest on that amount of money elsewhere. This principle plays a critical role in virtually every type of financial decision, including investment decisions, financing decisions, working capital management and valuation (Marx et al, 1999).

### 3.3.1.3 *The Risk-Return Principle*

Risk is the probability that the actual result of a decision may deviate from the planned end result and may entail an associated financial loss or waste of funds. The risk-return principle is thus the trade-off between risk and return. The higher the risk, the higher the required rate of return. As far as possible, the return should exceed the risk in any business decision (Marx et al, 1999).

The literature above indicates that decisions about how to maximize wealth and profitability, how to finance the business, what projects to invest in and how much cash to have on hand should all be viewed within the context of the cost-benefit, time-value-of-money and risk-return principles in order to ensure sound financial management.

### 3.3.2 Financial Statements as Sources of Performance Information

According to Haller (1985), the collecting, verifying and presenting of financial information about the many transactions that compose the business functions in the conversion cycle are the main subjects of accounting. Regardless of the size of an organisation, the keeping of elementary financial records, commonly referred to as the books, is necessary in order to account for the effects of business decisions that were made in the past. Their formats are aimed at measuring the costs and revenues associated with past decisions, changes in the composition and amounts of resources, and changes in the financing approach. Business decision making involves the utilisation of available skills and resources, or the acquisition thereof, for continued economic activity. The financial information helps to guide future decisions about the use and availability of resources and the financing strategy.

Gitman (1991) indicates that every organisation has many and varied uses for the standardised records and reports of its financial activities. Periodically, reports should be prepared for regulators, creditors, owners and management. Regulators, such as government and securities commissions, enforce the proper and accurate disclosure of corporate financial information. Creditors use financial data to evaluate the organisation's ability to meet scheduled debt payments. Owners use the information to assess the organisation's financial position and in deciding whether to buy, sell or hold shares. Management is concerned with regulatory compliance, satisfying creditors and owners, and monitoring the firm's performance.

Accountants summarise the financial information in reports known as financial statements. The income statement, balance sheet, cash flow statement and equity statement are the four primary financial statements and their key characteristics are presented in table 3.1. These statements summarise the business transactions for a specific period and show the financial position at a specific date at the end of that period (Gitman, 1991). Haller (1985) indicates that the guidelines used to prepare and maintain financial records and reports are known as generally accepted accounting principles. These accounting practices and procedures are authorized by the accounting profession's rule-setting body, the Financial Accounting Standards Board. These principles provide not only a unifying standard for the profession, but also allow users to assume conformity to certain accounting standards.

### 3.3.2.1 *The Income Statement*

According to Marx et al (1999), the income statement provides a financial summary of the firm's operating results over a period of time by comparing revenue with expenses. If revenue exceeds expenses, the firm is operating at a profit and therefore ensures its survival. Most commonly, an income statement covers a one-year period ending at a specified date; however, monthly or quarterly income statements are also prepared by most organisations. This is essential in order for management to know on a monthly basis whether income is increasing or decreasing, whether expenses and losses are being held at the anticipated level, and how net income compares with that of the preceding month and the corresponding month of the preceding year.

Campsey and Brigham (1985) specify that net sales, from which various costs are subtracted to obtain gross profit, are reported at the top of the income statement. Gross profits are then reduced by all operating expenses to obtain operating profits. Operating profits are further reduced by interest payments on debt, which should be paid whether the company is profitable or not. Taxes further reduce this amount. Financial managers often refer to net income as the bottom line, denoting that, of all the items on the income statement, net income draws the greatest attention. The net income is either paid to the shareholders in the form of dividends or retained by the organisation to support its growth. Haller (1985) emphasises the fact that cost determinations in the income statement are based on an accrual basis. This means that they are abstracted from when they are incurred or obligated, rather than when they are paid, and are therefore not always an accurate reflection of cash flows.

### 3.3.2.2 *The Balance Sheet*

According to Campsey and Brigham (1985), the balance sheet may be thought of as a snapshot of the firm's financial position at any point in time. The left-hand side of the balance sheet shows the organisation's assets and the right-hand side shows the claims against those assets. These claims are divided between funds supplied by the owners, namely owner's equity, and the money the company owes to non-owners (liabilities).

According to Marx et al (1999), when examining a balance sheet, it is important to bear in mind that the rand amounts listed indicate neither the prices at which the assets could be sold, nor the cost at which they could be replaced. Thus, one useful generalisation that can be made from this is that a balance sheet does not show the real value of the business at all times.

Haller (1985) highlights that the word balance comes from the fact that resource or asset values on the financial statement always equal the amount of financing for them. The value of resources is entered into the books at the cost of acquisition. The balance sheet is always based on the relationship that asset value equals the cost provided by financial sources, namely the owner's equity and liabilities.

#### *3.3.2.3 The Cash Flow Statement*

According to Marx et al (1999), the cash flow statement deals with cash receipts and payments between two consecutive balance sheets. The objectives of the cash flow statement are to provide information regarding cash utilised or generated by operating, investing and financing activities. Examples of cash inflows from investment activities include cash received from the sale of properties and cash outflows include cash paid to purchase property. Financing activities generally include the cash effects of transactions and other events involving long-term creditors and owners, that is, those activities resulting in changes in the size and composition of the debt and capital of the reporting entity. Drawing up a cash flow statement requires information from the consecutive balance sheets, income statements for the financial year, details of fixed assets and information on the gross movement of cash that may not be reflected on other financial statements.

#### *3.3.2.4 The Equity Statement*

According to Grobbelaar, Van Schalkwyk, Stegmann and Wesson (1999), the equity statement deals with the residual value of assets over liabilities. The classification and application of the different subdivisions of equity are to a great extent governed either by law, or by the memorandum and articles of association of a company. The objective of the

equity statement is to show changes in the shareholders' equity by highlighting income received (including capital injections by minorities) and expenses incurred (including payments to shareholders). This is done by reflecting the share capital of ordinary and preference shares, the share premium, and the distributable and non-distributable reserves. Larson (1990) indicates that the income statement reports the revenues and expenses of the organisation and that the resulting net income is reported in the equity statement. The resulting shareholders' equity from the equity statement, carried over and reported in the balance sheet, effectively represents the owners' claims on the organisation.

TABLE 3.1

## SUMMARY OF KEY CHARACTERISTICS OF FINANCIAL STATEMENTS

Financial Statement	Key Characteristics
Income Statement	<ul style="list-style-type: none"> <li>• Summary of operating results</li> <li>• Compares revenue to expenses</li> <li>• If revenue exceeds expenses, profit is shown</li> <li>• If expenses exceed revenue, losses are shown</li> <li>• Not an accurate reflection of cash flows</li> </ul>
Balance Sheet	<ul style="list-style-type: none"> <li>• Shows the organisation's assets and the claims against those assets, i.e. liabilities</li> <li>• Does not show the real value of the business at all times</li> </ul>
Cash Flow Statement	<ul style="list-style-type: none"> <li>• Deals with cash receipts and payments</li> <li>• Provides information regarding the cash utilised or generated by operating, investing and financing activities</li> <li>• Provides an indicating of the cash that is available to meet short-term obligations</li> </ul>
Equity Statement	<ul style="list-style-type: none"> <li>• Shows the shareholders' equity by highlighting revenue and expenses incurred</li> <li>• Shows share capital, the share premium, the distributable and non-distributable reserves, net income from the income statement and additional capital from shareholders</li> <li>• The shareholders' equity from this statement is presented in the balance sheet.</li> </ul>

The literature reviewed on financial statements indicates that these statements display the results of the organisation and are thus indicative of key financial management decisions regarding financing, investment, liquidity and risk. It is through the results displayed in

these statements that the organisation is able to assess whether it has been successful in pursuing its financial management strategy.

### **3.4 MEASURING FINANCIAL PERFORMANCE BY MEANS OF THE FINANCIAL STATEMENTS**

The financial statements described above provide a wealth of data that is available for further interpretation. In order to make the financial results meaningful and easily understandable at a glance, several techniques can be employed.

#### **3.4.1 Ratio Analysis**

According to Collier et al (1989), many groups outside a business enterprise (such as investors, creditors, trade unions, employees, government and regulatory bodies) are interested in its financial affairs. Management within an organisation is interested in monitoring the performance of the business and has a great advantage over outsiders because they have more detailed financial information about the organisation. Outside groups must rely on published financial statements and other corporate information bulletins to make decisions.

According to Bhattacharya (1995), a business system continuously generates data. Although some data can be directly used as information, in most cases further processing is required to bring out the information content of the data. Various methods are available for the processing of information, but data processing by the ratio method has the ability to bring out the maximum information content if the variables that produce ratios are correctly chosen with regard to the purpose at hand. Ratios enjoy remarkable simplicity and the information revealed by them is so direct to a particular decision-control situation that movement of a ratio or set of ratios gives an indication of the movement of an actual business process. Marx et al (1999) indicate that the basic inputs in ratio analysis are the organisation's income statement, balance sheet and equity statement for the periods under scrutiny. The data provided by these statements can be used to calculate various ratios that permit the evaluation of certain aspects of financial performance and condition.

Collier et al (1989) highlight that any figure from the accounts taken in isolation is not particularly meaningful. A profit figure, for example, does not indicate how well the organisation has performed unless it is related to another variable such as assets. By comparing one item in the accounts with another, a relationship is established in the form of a ratio. However, a ratio in isolation is of limited value unless we have something to compare it against. One method of comparison is past performance, or time-series analysis, which is applied when a financial analyst evaluates performance over time. A comparison between current and past performance, using ratio analysis, allows the firm to determine whether it is progressing as planned. Cross-sectional analysis is another method whereby the organisation's performance is compared relative to other organisations in the same industry. This enables an organisation to compare its financial performance against its key competitors or against an industry average. Bhattacharya (1995) highlights a third method of comparison which is the comparison of performance against predetermined budgetary standards derived from the business plan of the organisation.

Gitman (1991) highlights that ratio analysis is of interest to both current and prospective shareholders who are interested in the organisation's actual and future levels of risk and return. The organisation's creditors are interested in its short-term liquidity and its ability to make interest and other principal payments. They are, however, also interested in the profitability of the organisation and its continued success.

Marx et al (1999) indicate that financial ratios can be divided into four basic groups, each of which is discussed below.

#### *3.4.1.1 Profitability Ratios*

Morley (1984) states that every business in the private sector must be profitable if it is to survive in the long run. Investors and lenders are only likely to provide continued support to a profitable business. However, profitability cannot be assessed by simply considering the annual profit figure, as these figures reveal little about whether the company is well run, whether it is worth investing in or whether it is likely to continue trading in the foreseeable future. To make informed decisions about these matters, it is necessary to relate the profits to

other accounting figures. These ratios are described below and their calculations are reflected in table 3.2.

*(a) Gross Profit Margin*

The gross profit margin indicates the percentage of each sales rand remaining after the firm has paid for its goods. It is calculated by dividing gross profits (profits less expenses) by sales and the higher the profit margin, the better. The gross profit should be sufficient to enable the firm to pay its operating expenses and to earn a profit (Marx et al, 1999). Steyn, Warren and Jonker (1998) indicate that this figure is always expressed as a percentage, and highlights the difference between the cost of producing or purchasing goods and the price at which they are sold. This percentage usually remains fairly constant as businesses tend to have fixed guidelines regarding the mark-up of their goods in order to cover selling and administrative costs, whilst ensuring sufficient return on investment in the undertaking. Any changes in the gross profit percentage can generally be traced back to the mark-up, the sales mix, stock levels, theft and trade discounts.

*(b) Operating Profit Margin*

The operating profit margin represents the pure profits earned on each sales rand. They are pure profits in the sense that they exclude any financial or government charges and measure only profits earned on operations. A high operating profit is preferred and it is calculated by dividing operating profits by sales (Gitman, 1991).

*(c) Net Profit Margin*

The net profit margin measures the percentage of each sales rand remaining after all expenses, including taxes, have been deducted. It is calculated by dividing the net profit after tax by sales and the higher the net profit margin, the better. The net profit margin is a commonly cited measure of a firm's success with respect to earnings on sales. There is no single quantum amount that can be used as an indicator of a successful company, as the definitions of a good net profit margin will differ considerably across industries (Marx et al, 1999).

*(d) Return on Investment*

Return on investment measures how efficiently the organisation is utilising its available assets to generate income. Higher values of return on investment are good indicators. It is calculated by dividing net profit after taxes by total assets (Collier et al, 1989).

*(e) Return on Equity*

According to Steyn et al (1998), the object of any business activity is the production of a profit commensurate with the amount of investment by the entrepreneur and the risks involved. Morley (1984) indicates that the return on equity measures the return earned on the owner's investment. It is calculated by dividing the net profit after tax by the shareholders' equity. Generally, the owners are better off the higher the return on equity.

*(f) Earnings per Share*

Earnings per share measures the return earned on behalf of each ordinary share that has been issued and is thus of interest to prospective shareholders and management. It can be calculated by dividing earnings after tax less preference dividends by the number of ordinary shares issued. It represents the rand amount earned on behalf of each share outstanding and does not represent the amount of earnings actually distributed to shareholders (Collier et al, 1989).

*(g) Price/Earnings (P/E) Ratio*

The price/earnings ratio is commonly used to assess the owner's appraisal of share value. It represents the amount investors are willing to pay for each rand of the organisation's earnings and indicates the degree of confidence that investors have in the future success of the organisation. The higher the ratio, the greater the investor confidence in the organisation's future. It is calculated by dividing the market price per share of common stock by the earnings per share (Gitman, 1991).

*(h) Return on Assets*

Steyn et al (1998) indicate that return on assets expresses earnings before tax and interest paid as a percentage of total assets. This measure has long been held to be the basis of comparison of profitability between businesses in each industry. It is calculated by dividing the earnings before interest and tax by total assets. An improvement in the return on equity is mainly due to improvements in the return on assets.

*(i) Effective Tax Rate*

The effective tax rate is the rate a taxpayer would be taxed at if taxing was done at a constant rate, and not progressively. In other words, this is the net rate a taxpayer pays if all forms of taxes are included. It is calculated by dividing the total tax paid by taxable income (<http://www.investopedia.com>).

*(j) Return on Sales*

The return on sales ratio is often referred to as the net profit on sales or net profit margin. It measures how much of each sales rand the organisation is able to keep after recording all expenses in the process of doing business. It is calculated by dividing net income by sales and depends largely on operating costs and pricing policies. This ratio helps to determine which products or areas are profitable (Gallinger & Poe, 1995).

*(k) Operating Expenses/Operating Income*

Operating expenses refer to the sum of all expenses incurred from operations. Operating income encompasses all revenue derived from operations, including interest and non-interest revenue. This ratio is calculated by dividing operating expenses by operating income and seeks to measure how well an organisation can cover its costs with operating revenue (Consultative Group to Assist the Poorest, Inter-American Development Bank & U.S. Agency for International Development, 2002). This is used as a key measure in the banking industry to determine how well a particular organisation can control its costs and thus operate in a cost-efficient manner.

(l) *Net Interest Income/Operating Income*

This ratio is calculated by dividing net interest income (NII) by operating income. Net interest income is income derived from interest earned less any interest related expenses. The purpose of this ratio is to determine the percentage of operating income that can be attributed to interest earnings and is thus widely used in the banking sector (University of Pennsylvania, 2001).

(m) *Non-interest Revenue/Operating Income*

This ratio is calculated by dividing non-interest revenue (NIR) by operating income. Non-interest revenue is revenue derived from all sources other than interest earnings. The purpose of this ratio is to determine the percentage of total operating income that can be attributed to non-interest earnings (University of Pennsylvania, 2001). This ratio is used predominantly in the banking sector.

(n) *Net Income after Interest and Taxes/Operating Income*

Net income after interest and taxes (NIAT) is the income that an organisation has made after all expenses, taxes and interest payments have been paid (Grobbelaar, et al, 1999). According to Malan (personal communication, 19 June 2003), the purpose of this ratio is to examine net income after interest and taxes in proportion to total operating income. This helps to determine whether taxes and interest payments are eroding income. The higher this ratio, the better the financial position of the organisation.

### 3.4.1.2 *Liquidity Ratios*

According to Steyn et al (1998), the liquidity of an enterprise revolves around its ability to meet its short-term liabilities out of short-term assets and cash flows. Essentially, liquidity is the solvency of the organisation. The liquidity ratios are not only of concern to the short-term creditors but also to the long-term creditors, as the ability to remain liquid will directly effect

the ability of the organisation to repay long-term funds. Key liquidity ratios are explained below and their calculations are presented in table 3.2.

*(a) Current Ratio*

According to Steyn et al (1998), this ratio indicates the organisation's ability to pay its current liabilities out of current assets, and is of interest to short-term creditors and bank managers. A standard for this ratio which has been successfully used for many years is 2:1, meaning that there are two rands worth of current assets for each rand of current liabilities. This standard may, however, vary across industries. The current ratio is always expressed as a ratio and never as a percentage. Campsey and Brigham (1985) indicate that it is computed by dividing current assets by current liabilities. Current assets usually include cash, marketable securities, accounts receivable and inventories. Current liabilities consist of accounts payable, short-term notes payable, current maturities of long-term debt, accrued income taxes and other accrued expenses. If an organisation is getting into financial difficulty, it begins paying its accounts payable slowly, often with the assistance of bank loans. If these current liabilities are rising faster than current assets, the current ratio will fall and this could be an indicator that the organisation may be heading for trouble. Accordingly, the current ratio is the most commonly used measure of short-term solvency.

*(b) Acid-test Ratio*

The acid-test ratio is similar to the current ratio except that it excludes inventory, which is generally the least liquid current asset. This ratio indicates the ability of the enterprise to pay all its current liabilities out of quick assets, that is, assets which are either cash or quickly convertible into cash. This ratio is calculated by subtracting inventory from current assets and then dividing the amount by current liabilities. The usually acceptable norm for this ratio is 1:1, meaning that each rand of current liabilities is covered by a rand of quick assets (Steyn et al, 1998).

### *(c) Net Working Capital*

Marx et al (1999) indicate that net working capital is a useful ratio for internal control purposes, but it is not advisable to compare organisations on the basis of this ratio. Often when the firm incurs long-term debt, the contract requires a minimum level of net working capital to be maintained. This requirement is intended to force the firm to maintain sufficient liquidity and reduces the risk to which the creditor is exposed. Organisations can set themselves a certain level of net working capital to reduce the risk of not being able to pay their accounts when they become due. Net working capital is calculated by subtracting current liabilities from current assets.

#### *3.4.1.3 Activity Ratios*

Activity ratios are used to measure the speed with which various accounts are converted into sales or cash. Measures of overall liquidity are generally inadequate because differences in the composition of a firm's current assets and liabilities may significantly affect the firm's true liquidity. It is therefore important to look beyond measures of overall liquidity to assess the activity of the most important current accounts, which include inventory, accounts receivable and accounts payable (Gitman, 1991). Key activity ratios that are relevant to investment banking are reflected below and their calculations are shown in table 3.2.

##### *a) Average Collection Period*

According to Bradshaw and Brooks (1996), the average age of accounts receivable, also known as the average collection period, measures the average length of time a business waits to receive a cash payment for credit sales, and thereby measures the internal credit and collection effectiveness of the credit department. The average collection period is meaningful only in relation to the organisation's credit terms. It is important to bear in mind that, due to the time-value-of-money and the opportunity cost concept, the organisation is losing interest if the cash is tied up in accounts receivable. This interest could have been earned if the money was invested elsewhere or, alternatively, the organisation could be paying interest on an overdraft to finance the accounts receivable.

The average collection period is calculated by dividing the average daily credit sales by the accounts receivable balance.

*b) Average Payment Period*

Gitman (1991) points out that the average payment period, or average age of accounts payable, is calculated in the same manner as the average collection period. It measures the average length of time a creditor must wait to receive payment for supplies purchased from him. It is calculated by dividing the creditors or accounts payable by the average purchases per day. If the average age of creditors is high, then it could be a sign of liquidity problems; if it is too low, it could mean that this source of finance is being overlooked.

*3.4.1.4 Debt or Solvency Ratios*

Debt management ratios are measures that show how the use of debt affects the organisation's ability to repay its obligations in the long term. Financial leverage is a term used to describe the magnification of risk and return introduced through the use of fixed cost financing such as debt and preference shares (Marx et al, 1999).

Correia et al (2000) indicate that debt management plays an important role in financial management and that the extent of financial leverage of the organisation has a number of implications. Firstly, the more financial leverage the organisation has, the higher its financial risk. As debt finance incurs interest, which is a fixed cost to the organisation every month, earnings become more volatile with debt finance. However, additional risk yields additional return and if the firm earns more on the borrowed funds than it pays in interest, the return on owner's equity is magnified. Finally, by raising funds through debt, the shareholders can obtain finance without losing control of the organisation. There are thus basically two aspects to financial leverage: firstly, a change in financial risk and, secondly, some implications for the returns attributable to shareholders. The debt management ratios try to assess the impact of financial leverage on risk and attempt to determine if the firm has overextended itself through the use of financial leverage, while the profitability ratios will indicate the impact of financial leverage on shareholders' returns.

*a) Debt Ratio*

The debt ratio is the ratio of total debt to total assets and measures the percentage of total funds provided by creditors. Total debt includes current liabilities and, in most instances, preference shares. The higher the debt ratio, the higher the financial risk. Creditors thus prefer low debt ratios since the lower the ratio, the greater the security against creditors' losses in the event of liquidation. The owners, on the other hand, may seek high leverage, either to magnify earnings or because selling new shares means giving up some degree of control (Correia et al, 2000).

*b) Times Interest Earned*

According to Finkler (1992), the times interest earned ratio is also known as the interest coverage ratio. It compares the funds available to pay interest to the total amount of interest that has to be paid. The funds available for interest are the organisation's profits before interest and taxes. As long as profit before interest and taxes is greater than the amount of interest, the organisation will have enough money to pay the interest owed. Correia et al (2000) highlight that this ratio measures the extent to which earnings can decline without causing financial losses to the organisation, and an inability to meet the interest cost. Failure to meet this obligation could result in legal action and ultimately insolvency. According to Finkler (1992), this ratio is determined by dividing earnings before interest and taxes by the interest charges. The higher this ratio, the more comfortable creditors will feel. This is the type of ratio that should be maintained at a certain level, dependent on the organisation's strategic objectives and the industry's norms.

*c) Debt Equity*

The debt equity ratio is similar to the debt ratio, except that it measures the ratio of total liabilities to total equity. It measures how much the long-term creditors have invested in the organisation compared to the owners. There are several variations of this ratio, but the standard way of calculating it is to divide the total debt by the total equity. It thus indicates the extent to which debt is covered by shareholders' funds. The organisation is

deemed to be more risky, the larger the liabilities become relative to the total equity. It is important to bear in mind that the nature of the organisation and its industry have a lot to do with the acceptability of a particular level of debt to equity. For a business with very constant sales and earnings, more debt is relatively safer than for a firm that has large fluctuations in profitability. An equal level of debt does not imply an equal level of risk for two organisations in different industries (Marx et al, 1999).

**TABLE 3.2**  
**FINANCIAL RATIO CALCULATIONS**

Type of Ratio	Ratio	Calculation
<b>Profitability Ratios</b>	Gross Profit Margin	$\frac{\text{sales} - \text{cost of goods sold}}{\text{sales}}$
	Operating Profit Margin	$\frac{\text{operating profits}}{\text{sales}}$
	Net Profit Margin	$\frac{\text{net profit after tax}}{\text{sales}}$
	Return on Investment	$\frac{\text{net profit after tax}}{\text{total assets}}$
	Return on Equity	$\frac{\text{net profit after tax}}{\text{shareholders' equity}}$
	Earnings per Share	$\frac{\text{earnings after tax} - \text{preference dividend}}{\text{number of ordinary shares issued}}$
	Price/Earnings Ratio	$\frac{\text{market price per share of common stock}}{\text{earnings per share}}$
	Effective Tax Rate	$\frac{\text{total tax paid}}{\text{taxable income}}$
	Return on Sales	$\frac{\text{net income}}{\text{sales}}$
	Operating Expenses/ Operating Income	$\frac{\text{operating expenses}}{\text{operating income}}$
	Net Interest Income/ Operating Income	$\frac{\text{interest income} - \text{interest related expenses}}{\text{operating income}}$
	Non-interest Revenue/ Operating Income	$\frac{\text{non-interest revenue}}{\text{operating income}}$
	NAIT/Operating Income	$\frac{\text{net income after interest and taxes}}{\text{operating income}}$
<b>Liquidity Ratios</b>	Current Ratio	$\frac{\text{current assets}}{\text{current liabilities}}$
	Acid Test Ratio	$\frac{\text{current assets} - \text{inventory}}{\text{current liabilities}}$

TABLE 3.2 (Continued)

Type of Ratio	Ratio	Calculation
	Net Working Capital	Current assets – current liabilities
<b>Activity Ratios</b>	Inventory Turnover	$\frac{\text{cost of goods sold}}{\text{average inventory}}$
	Average Collection Period	$\frac{\text{accounts receivable}}{\text{annual sales} \div 365}$
	Average Payment Period	$\frac{\text{accounts payable}}{\text{average purchases} \div 365}$
<b>Debt Management Ratios</b>	Debt Ratio	$\frac{\text{total debt}}{\text{total assets}}$
	Times Interest Earned	$\frac{\text{earnings before interest and taxes}}{\text{interest charges}}$
	Debt Equity	$\frac{\text{total debt}}{\text{total equity}}$

#### 3.4.1.5 Important Factors to Consider in the use of Ratio Analysis

Morley (1984) provides some caution relating to the use of financial ratios. He indicates that ratio analysis is a useful tool for those who base decisions on financial accounts; however, the tool can sometimes be dangerous as it can mislead decision makers and result in bad decisions. Firstly, such danger can occur when the ratio user ignores a company's accounting policies. Ratio users should always bear in mind that the reliability of a ratio is no better than that of the accounting figures comprising its numerator and denominator. The figures may be misleading if changes to a company's accounting policies are not taken into account. Similarly, the ratio user can also be misled if they compare the ratios of two companies which use dissimilar accounting policies. This danger is especially great if two companies are incorporated in different countries, since then it is highly likely that different accounting policies will exist. The way to avoid these dangers is to read through the notes of the accounts and to make comparisons only between ratios constructed from figures which are based on similar accounting policies. Secondly, the ratio user should consider why the company concerned has chosen the date used for the accounting year-end, and whether trade is seasonal or steady throughout the year. In trades with seasonal fluctuations the year-end figures for stocks, debtors and creditors may give a false impression of their average

values over the year. It follows that ratios based on these untypical figures will be misleading. Thirdly, the purpose of calculating a ratio is often to compare it with the same ratio for other companies. Caution should be exercised in selecting comparable companies and, as the crude industrial classification is not always sufficient, it is often necessary to determine the core focus of the business by reading through the statement of principal activities in the financial report. Fourthly, the ratio user should consider whether any technical errors have been made in the calculation of the ratios. The definitions of the numerator and denominator should be compatible in that their coverage should be the same. Fifthly, whilst ratio analysis offers help and guidance, it is not a magic panacea and business decisions should never be solely based on ratios.

### **3.4.2 Comparative Financial Statements and Trend Analysis**

Financial statements are compared by setting up balance sheets, income statements, equity statements or cash flow statements side-by-side and reviewing the changes that have occurred from year to year. The most important factor that is revealed from a comparative analysis is the trend because it will indicate the direction, rate and amount of change that has occurred. A meaningful trend can only be established if financial information is available for five to 10 years. This information is very important to analysts as it helps them to project future results (Correia et al, 2000).

### **3.4.3 Common-size Statement Analysis**

According to Gallinger and Poe (1995), common-size statement analysis is a technique that enables the make-up and patterns of a company's balance sheet, income statement and equity statement to be determined. The analysis can either be horizontal across years or vertical within a year. Common size analysis reduces absolute numbers to percentages of components at one point in time or to percentages of change in components over time, thereby revealing possible trends. Correia et al (2000) highlight that, in a common-size balance sheet, the capital employed is expressed as 100 percent and each item is expressed as a percentage of the total. In the common-size income statement, the turnover is expressed as 100 percent and every other item is expressed as a percentage of the turnover.

Gallinger and Poe (1995) point out that with horizontal analysis, several balance sheets, income statements and equity statements are arranged in vertical columns so that the annual changes in related items can be compared from year to year. This comparison of the accounts generally reveals a pattern that may suggest management's underlying philosophies, policies and motivations. The annual financial statements are no longer simple snapshots but, instead, become important messages of management decisions and actions. Vertical analysis is the process of finding the proportion that an item, such as inventory, represents of a total group, such as assets. This method is used when the financial results of one year are analysed.

#### **3.4.4 Funds Flow Analysis**

According to Gallinger and Poe (1995), accrual accounting concepts recognise that it is the economic substance of a transaction that determines the timing of accounting recognition rather than the activity of receipt or payment of cash. However, investors use cash flows to value the firm (not accrual accounting concepts) as they wish to assess the actual cash inflows and outflows of the business (where cash was obtained and how it was spent). Many organisations report positive net income amounts, yet have negative cash income. Funds flow analysis is thus important for understanding the true cash flows of the business. It restates the organisation's flow of funds from an accrual accounting basis to a cash accounting basis, and thus excludes all non-cash reserves and expenses recorded by accrual accounting. Generally, the funds flow analysis is split to indicate the net cash flow from operations or productive activities, the net cash flow from investments, and the net cash flow from financing the business or the payment of dividends.

Financial performance can thus be analysed through ratio analysis, comparative financial statements and trend analysis, common-size statement analysis and funds flow analysis.

### **3.5 MOTIVATION FOR USING RATIO ANALYSIS AS A BASIS TO DETERMINE FINANCIAL PERFORMANCE**

After considering the various aspects of financial performance above, a choice had to be made as to which analysis technique should be used for the purposes of this study. Due to the fact that historical data on culture would not be available for this research, current measures of financial performance were selected. The method of trend analysis was thus automatically excluded as an option. The cash flow was not considered as a critical measure of performance for the investment bank and thus funds flow analysis was rejected as an analysis technique. Furthermore, financial performance should not be viewed within the context of turnover alone and thus the common-size income statement analysis was rejected.

For the purposes of this research an objective method is preferred and the information required should be readily available. The data required to calculate ratios is often publicly available in the annual reports of companies listed on the stock exchange and would thus not pose a risk to the organisation concerned if the ratios were to become publicly available. Other components of financial performance are not always readily available on the surface and require an in-depth knowledge of the organisation's policies and practices in order to analyse them effectively. Audited financial results are generally more reliable, as the financial data being used has been checked for accuracy by an outside auditing firm. Ratio analysis was thus selected as the indicator of financial performance due to the fact that ratios are a summary measure of effectiveness and refer to the holistic performance of the organisation. In addition to this, they are indicators of the organisation's performance that are widely recognised by those who manage and invest in organisations, and are able to provide sufficient information at a glance for investors and the management of an organisation to make decisions. The ratios used in this research should be provided by the Finance Department of the organisation concerned and should have been subject to an audit in order to ensure the reliability of the data.

### 3.5.1 Ratios Selected for this Study

According to M Malan (personal communication, 31 July 2002) the use of ratios should be consistent with the nature of the organisation concerned and the classification of financial performance in the context of the organisation. The organisation selected for this study was in the investment banking industry and thus traditional ratios used in the manufacturing industry did not apply, as the organisation generated a substantial portion of its income through interest -- as opposed to sales of goods. In addition to this, income and expenses reflected in the income statement were monitored more closely than assets and liabilities reflected in the balance sheet, as the organisation concerned did not have to make large investments in capital equipment in order to generate sales. Balance sheet ratios were generally viewed at an organisational level and not at a departmental level as some of the input was based on figures at the organisation level, such as the share price or number of shares issued. The following income statement ratios were thus selected for this study:

- effective tax rate
- net interest income/operating income
- non-interest revenue/operating income
- operating expenses/operating income
- net income after tax/operating income (Net Profit Margin), and
- return on sales

The above ratios are all profitability ratios. The reason that a profit maximisation, as opposed to a wealth maximisation, approach will be followed in this research is due to the fact that the organisation's wealth could not be measured at a departmental level. Factors that determined the wealth of the organisation, such as the share price, could only be measured for the organisation as a whole. The above measures were used by the organisation concerned to track and evaluate bank performance on a monthly basis. During the latter part

of the nineties, banks' spreads were decreasing. This was due to the interest rate environment that prevailed during the last few years, that is, a fairly flat yield curve. In addition to this, the expansion of wholesale banking, specifically the use of borrowings, contributed to the spread squeeze. As banks realized less revenue per rand of earning assets, this put the spotlight on cost control. The financial performance of banks was thus often reliant on cost control, tax efficiency and the relationship between income and expenses (BNK Analytics, 2003).

### **3.6 CHAPTER SUMMARY**

This chapter began with the conceptualisation of financial performance and a description of the key aspects of financial management. The various financial statements that organisations produce, and their interpretation, were then discussed in order to gain an understanding of the financial data available for analysis. Various methods and techniques for analysing the data provided in financial statements were then highlighted and the motivation for using ratio analysis as a measure of financial performance was discussed. This chapter concluded by describing the ratios that will be used for this research.

## **INTEGRATION: THE RELATIONSHIP BETWEEN ORGANISATIONAL CULTURE AND FINANCIAL PERFORMANCE**

The powerful, pervasive role culture plays in shaping organisational life lends plausibility to speculations that cultural factors may be linked with exceptional levels of organisational performance (Saffold, 1988). Studies relating organisational culture to performance tend to differ in terms of the performance measures that are used across the types of organisations that are studied. This is not unexpected, as the performance measures generally relate to the extent to which goals relevant to the specific organisation are attained (Lim, 1995).

Peters and Waterman (1982) identified 36 American companies which had displayed excellent performance between 1961 and 1980. Six performance measures were used, namely compounded asset growth, average turnover growth, average ratio of market to book value, average return on total capital, average return on equity and average return on sales. Among the eight lessons drawn from this empirical study, at least five have a direct link with corporate culture or the way people work in the company. The cement of those excellent organisations was a bias for action, closeness to the customer, autonomy and entrepreneurship, productivity through people's motivation and, finally, a strong corporate culture. However, Calori and Sarnin (1991) highlight that Peters and Waterman (1982) could not prove empirically that these attributes did not exist in less successful companies and there was no statistical test of the relation between economic performance and corporate culture.

According to Calori and Sarnin (1991), Denison conducted the most extensive quantitative study on corporate culture and economic performance. Denison (1990) measured organisational culture by individual perceptions of organisational practices. The data was drawn from the Survey of Organisations archives at the University of Michigan's Institute for Social Research. The Survey of Organisations used a 125-item questionnaire on organisational climate, work design, leadership, group functioning and satisfaction. It focused on the respondents' perceptions about the way their organisation was managed. The study was based on the answers of 43 747 respondents in 34 companies across 25 industries. Organisational performance was measured by return on investment, return on equity and return on sales. To eliminate the effects of the economic climate, a standardised measure of

financial performance was calculated. Financial performance was measured for five years, following the organisational survey. The results show that a well-organised work environment is positively related to return on investment and return on sales. Participative decision-making practices are related to a high standardised return on investment and return on sales, and the positive relationship increased during the subsequent five-year period. Denison also tested for relationships between the consistency of responses across groups within the organisation and economic performance. High consistency was associated with high current performance and short-term performance, but high consistency was also associated with low long-term performance. This was possibly due to the ability to adapt to long-term changes in the environment. Calori and Sarnin (1991) mention that this study has definitely made an important contribution for testing relationships between management practices and economic performance. However, the survey questionnaire did not cover all the possible dimensions of culture, such as the organisation's relation to its external environment. In addition, many items measured the respondents' evaluation of the quality of working life, which is only one aspect of corporate culture.

Hansen and Wernerfelt (1989) used part of the same database and added further cases in their study of the relative importance of economic and organisational factors in explaining a firm's performance. Sixty firms were studied and four economic variables were measured, namely industry profitability, the firm's relative market share, the firm's market share and the firm's size. Two measures of organisational climate were selected, namely the employee's perception of how concerned the organisation is with his or her welfare, work conditions and efforts, and the firm's emphasis on goal accomplishment. The firm's performance was measured by return on assets averaged over five years. The results show that both factors are significantly correlated with return on assets, especially the response to employee needs.

The results of a study by Calori and Sarnin (1991), on a sample of 260 individuals in five French companies, indicate that relative performance of participating organisations on return on investment and return on sales seem to be related to five values and some of their corresponding practices, namely openness to the environment, participation in local activities, societal contribution, solidarity and flexibility. The findings also indicate that some cultural attributes and associated management practices are positively correlated with a firm's relative growth performance, such as personal fulfilment, listening to others, team

spirit, responsibility, trust, openness to the environment, adaptation, anticipation, entrepreneurship, quality and consistency.

Between 1987 and 1991, Kotter and Heskett (1992) conducted four studies to determine whether a relationship exists between corporate culture and long-term economic performance. The results of their studies indicated that:

- **Corporate culture can have a significant impact on long-term economic performance.** They found that firms with cultures that placed an emphasis on customers, shareholders, employees and leadership from managers at all levels outperformed firms that did not have those cultural traits by a huge margin. Over an 11-year period, the former increased revenues by an average of 682 percent, expanded their workforces by 282 percent, grew their share prices by 901 percent and improved their net incomes by 756 percent. Firms that did not have those cultural traits, on the other hand, increased revenues by an average of 166 percent, expanded their workforces by 36 percent, grew their share prices by 74 percent and improved their net incomes by one percent.
- **Corporate culture will probably be an even more important factor in determining the success or failure of firms during the next decade.** Performance-degrading cultures have a negative financial impact for a number of reasons, the most significant being their tendency to inhibit firms from adopting needed strategic or tactical changes. In a world that is changing at an increasing rate, one would predict that unadaptive cultures will have an even larger negative financial impact during the coming decade.
- **Corporate cultures that inhibit strong long-term financial performance are not rare.** They develop easily, even in firms that are full of reasonable and intelligent people. Once these cultures exist, they can be enormously difficult to change because they are often invisible to the people involved and help support the power structure of the firm.
- **Although tough to change, corporate cultures can be made more performance enhancing.** Such change is complex, takes time and requires leadership, which is

something that is quite different from excellent management. Leadership should be guided by a realistic vision of what kinds of cultures enhance performance.

A South African study conducted by Van der Post et al (1998) involved 128 organisations listed on the Johannesburg Stock Exchange in an attempt to understand the relationship between organisational culture and financial performance. The financial performance measures used in the study were return on average equity, return on average assets, total asset growth and share return. Their findings indicated that not all elements of culture correlate significantly with financial performance; however, the elements of culture that were found to have a positive impact on financial performance are as follows:

- strategic visions that include organisational values which are widely accepted by organisational members
- alignment of culture and core values to the business strategy and the regular assessment of its appropriateness, and
- recruitment, orientation and initial training programmes that are designed to communicate the core values of the organisation to the employees

Corbett and Rastrick (2000) indicate that evidence shows that companies that pursue best practices and total quality management achieve higher profits and cash flows, as well as greater shareholder value. However, some recent findings suggest that most features generally associated with total quality management, such as training, process improvement and benchmarking, do not generally produce advantages, while certain tacit, behavioural, imperfectly imitable features, such as an open culture, employee empowerment and executive commitment, can produce advantages. Powell (1995) concludes that these tacit resources, and not total quality management tools and techniques, drive total quality management success and that organisations that acquire them can outperform competitors with or without the accompanying total quality management methodology.

Much of the literature on organisational culture and performance can be interpreted as suggesting that culture can have a significant positive economic value for a firm (Barney, 1986). Certain cultures apparently enable firms to do and be things for employees,

customers, suppliers and others that could not be done, or could not be done as well, by firms without those cultures (Deal & Kennedy, 1982; Ouchi, 1981). Many of those activities have shown a positive economic impact on organisations.

The results of the studies reflected above tend to indicate that many positive correlations have been found between certain elements of culture and the financial measures. The key financial measures for which several positive correlations were established are return on assets, return on investment, return on sales and market share.

## **CHAPTER 4**

### **THE EMPIRICAL RESEARCH**

The aim of this chapter is to discuss the empirical research, including a description of the questionnaire selected and the statistical processes used.

#### **4.1 POPULATION AND SAMPLE**

According to Christensen (1997), a population refers to all the events, things or individuals that are represented in a research project, whilst a sample refers to any number of individuals less than the population. The manner in which the sample of participants is selected depends on the goals of the research project. When the research question requires an accurate description of the general population, a random sampling technique should be used. Random sampling is a technique whereby every member of the population has an equal chance of being selected for the study, and thus has the advantage of providing a sample of participants whose responses represent those of the general population.

This research was conducted in a South African investment bank. The population was defined as the total number of permanent employees in the organisation and included all levels of staff. This represented a population of 497 employees, based in three regions across the country, in 14 departments. Six of the departments were classified as support services or group operations and thus operated as cost centres, as opposed to income generating units. The six departments were consolidated to form a bigger area called group operations and their profitability were not examined. The profitability and culture profiles of the seven income generating departments were explored as separate business units.

Due to the relatively small population size, it was decided to include the entire population in the research. All employees were thus invited to complete the questionnaire. However, some were on leave, attended training or were on international business trips, while others, although at work, were unable to complete the questionnaire for various reasons. These employees excluded themselves from participating in the survey. Due to the fact that all

employees were invited to participate and the assumption that some employees excluded themselves from participating, it can be said that a random sampling approach was followed which produced a sample of 327 completed and returned questionnaires. This represented a final sample of 66 percent of the total population.

## **4.2 SELECTING AND MOTIVATING THE MEASURING INSTRUMENT**

The measurement instrument that was selected for the purpose of this research is the Denison Organizational Culture Survey. This survey is based on 15 years of research on over 1000 organisations and 40 000 individuals. It uses 60 items to focus on four cultural traits that can have a significant impact on organisational performance in areas such as profitability, quality, sales growth and employee satisfaction (Denison, 2000a).

### **4.2.1 The Theoretical Basis and Rationale for the Development of the Denison Organizational Culture Survey**

Many authors have published work on a cultural theory of organisational effectiveness within the field of organisational behaviour; however, their research cannot be regarded as academic research, as the evidence most often consists of stories and anecdotes that are entertaining but not always convincing (Denison, 1990). It is against this background of a disregard for science that Daniel Denison undertook research to address the issue of scientific evidence by taking both a quantitative and a qualitative approach to studying the impact that organisational culture can have on performance and effectiveness over time.

#### *4.2.1.1 The Original Denison Study*

Denison's (1990) first attempt to understand the relationship between culture and effectiveness began with his doctoral dissertation which comprised a study of 34 American organisations. Survey data was collected at one point in time between 1968 and 1980, and was matched with performance data for the five years following the survey date. The index scores for each organisation were derived by aggregating individual responses to the organisational level.

The behavioural data for the comparative part of the study was drawn from the Survey of Organisations (SOO) questionnaire (Taylor and Bowers, 1972) and the Organisation Survey Profile (OSP), a highly similar instrument used by Rensis Likert Associates in Ann Arbor, Michigan. These instruments grew out of the organisational research conducted by the Institute for Social Research between 1966 and 1980. The content of these instruments includes behavioural characteristics of organisations as well as characteristics of the context within which the group operates, job design, leadership, group functioning, satisfaction and goal orientation. This range of content includes organisation-level constructs and leadership, and group-level and individual attributes. The range of firms studied, using either the SOO or OSP instruments, allowed for a comparative study at the organisational level of the impact of organisational behaviour on firm performance. The financial data to generate the outcome measures in this study was obtained from Standard and Poor's statistical service, COMPUSTAT, maintained on tape at the University of Michigan's School of Business Administration. This service allows access to yearly data on 130 financial measures for 2458 firms listed on either the American Stock Exchange or the New York Stock Exchange (Denison, 1990).

Denison (1990) then compiled an analysis file in order to create a subset of firms for which both behavioural and financial data were available. Once this match was made, behavioural data was converted from multiple versions of the survey to a common form and index structure, and then aggregated to the work group level. Organisational level statistics were then computed for each organisation and for all of the indices drawn from the survey items. A subset of financial measures were drawn from COMPUSTAT and were used to create the financial ratios of return on sales and return on investment in order to measure financial performance. For each firm for which there was behavioural data, all other firms in the same industry were drawn from the tape and used to compute a standardised performance measure, comparing each firm's performance with the performance of competitors year by year. The standardised and unstandardised financial ratios were then matched to the behavioural data to form a sample of 34 firms that would serve as a database suitable for the examination of the relationship between behaviour and performance. The results of the study indicated that firms with more positive perceptions of work organisation were found to be constantly better in performance than firms with less positive views. However, decision-making style was found to be less clearly related to performance. Specifically, the

more participative firms had slightly better performance initially, which gradually improved over time. Similar results were obtained when these firms were compared with the rest of the firms in their industry, which led to the conclusion that soft measures do in fact predict hard outcomes.

Although this study had some elements of a time-series design, it was not a true time-series analysis due to the absence of multiple measures of the behavioural characteristics. This design allows for the longitudinal tracking of performance, but not for the tracking of the survey data or culture over time. Longitudinal culture measures would greatly improve the study and the ability to make inferences about cause and effect. Further shortcomings of this original study were that neither the survey instruments nor the traits that were operationalised were ideal for culture research. Better measures of culture, spanning the range from assumptions to artifacts, would enormously improve the quality of the research (Denison, 1990).

#### 4.2.1.2 *Building a Grounded Theory*

Denison and Mishra (1995) highlight that, based on the prior study by Denison, five firms were selected showing a close relationship between culture and performance in order to facilitate theory building. The firms selected were Detroit Edison, Proctor and Gamble, Medtronic, People Express and Texas Commerce Bancshares. Each case study began with publicly available sources such as annual reports, the popular press and business histories written on three of the five firms. Primary case studies came from direct interviews conducted by Denison with a sample of organisational members. A minimum of 25 individuals were interviewed in each firm, representing a cross-section of the organisation by including members from different hierarchies and functional groups. The questions were informal but, in all cases, focused on the interviewee's identity and career history, the core values of the organisation and its uniqueness, the power and prestige of different subgroups, the impact of the organisation's history on its culture, and the interviewee's perception of the linkage between the culture of the organisation and its effectiveness over time. The interviews were recorded, reviewed and analysed and summary themes were extracted. The case studies provided a starting point for developing the following hypotheses about culture and effectiveness:

- H1: Involvement is a cultural trait which will be positively related to effectiveness
- H2: Consistency, or the degree of normative integration, is a cultural trait that will be positively related to effectiveness
- H3: Adaptability, or the capacity for internal change in response to external conditions, is a cultural trait that will be positively related to effectiveness
- H4: Sense of mission or long-term vision is a cultural trait that will be positively related to effectiveness

The four hypotheses were then integrated into a framework designed to acknowledge the contrast between internal integration and external adaptation, and the contrast between change and stability, as shown in figure 2.4. For example, involvement and consistency have as their focus the dynamics of internal integration, while mission and adaptability address the dynamics of external adaptation. This focus is consistent with Schein's (1990) observation that culture is developed as an organisation learns to cope with the dual problems of external adaptation and internal integration. In addition, involvement and adaptability describe traits related to an organisation's ability to change, while consistency and mission are more likely to contribute to the organisation's capacity to remain stable and predictable over time. Instead of arguing, however, that the classification of an organisation's culture should be an either/or type of decision, this framework assumes that an effective culture should provide all of these elements (Denison & Mishra, 1995).

#### 4.2.1.3 *An Exploratory Test of the Model*

An exploratory study was conducted in order to test the four hypotheses by examining the linkage between the four cultural traits and effectiveness. From the hypotheses described above, questionnaire items were developed for each of the four traits. The participant organisations were drawn from five major industries, namely manufacturing, business services, finance, insurance and real estate, retail and wholesale. Survey measures of the traits were obtained from top executives in 764 organisations and compared to a set of

effectiveness measures that included subjective and objective measures of profitability, quality, sales growth, satisfaction and overall effectiveness. Factor analysis and multidimensional scaling were used to assess the validity of the questionnaire items developed to measure the four cultural traits. The data for the sample of large firms shows that profitability criteria are best predicted by the stability traits, mission and consistency, while the sales growth criteria are best predicted by the flexibility traits, involvement and adaptability (Denison & Mishra, 1995).

The results of the abovementioned studies indicate that culture may indeed have an impact on effectiveness. Each of the four cultural traits showed a significant positive association with a wide range of both subjective and objective measures of organisational effectiveness, as well as interpretable linkages between specific traits and specific criteria of effectiveness (Denison & Mishra, 1995).

#### **4.2.2 Dimensions/Factors**

The Denison Organizational Culture Survey measures the four cultural traits hypothesised in 4.2.1.2 in three indices each (Denison, 2000a). These traits are depicted in figure 4.1 and are described below.

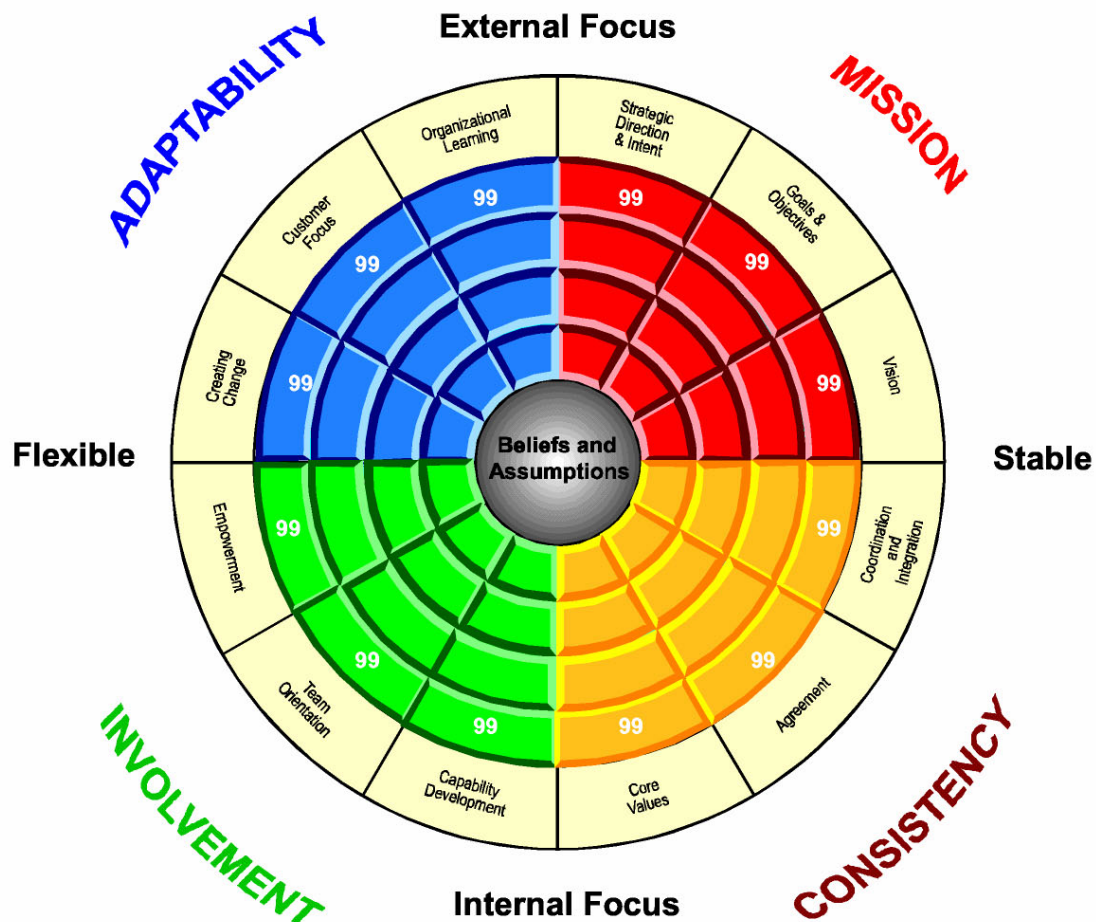


Figure 4.1: Denison's Organisational Culture Dimensions (Denison, 2000a)

#### 4.2.2.1 *Involvement*

Denison (2000a) defines involvement as the building of human capability, ownership and responsibility. It comprises the following indices:

- **Empowerment.** Individuals have the authority, initiative and ability to manage their own work. This creates a sense of ownership and responsibility towards the organisation.

- **Team orientation.** Value is placed on working cooperatively toward common goals to which all employees feel mutually accountable. The organisation relies on team effort to get work done.
- **Capability development.** The organisation continually invests in the development of employees' skills in order to stay competitive and meet ongoing business needs.

#### 4.2.2.2 *Consistency*

Denison (2000a) describes consistency as the values and systems that form the basis of a strong culture. It comprises the following indices:

- **Core values.** Members of the organisation share a set of values which create a strong sense of identity and a clear set of expectations.
- **Agreement.** The organisation is able to reach agreement on critical issues. This includes an underlying level of agreement and the ability to reconcile differences when they occur.
- **Coordination and integration.** Different functions and units of the organisation are able to work together well to achieve common goals. Organisational boundaries do not interfere with getting work done.

#### 4.2.2.3 *Adaptability*

Denison (2000a) defines adaptability as the translation of the demands of the business environment into action. It comprises the following indices:

- **Creating change.** The organisation is able to create adaptive change. The organisation is able to read the business environment, quickly react to current changes and anticipate future changes.

- **Customer focus.** The organisation understands and reacts to the customer, and anticipates his or her future needs. This reflects the degree to which the organisation is driven by a concern to satisfy the customer.
- **Organisational learning.** The organisation receives, translates and interprets signals from the environment into opportunities for encouraging innovation, gaining knowledge and developing capabilities.

#### 4.2.2.4 *Mission*

Denison (2000a) explains that the mission dimension relates to the defining of a meaningful long-term direction for the organisation. It comprises the following indices:

- **Vision.** The organisation has a shared view of a desired future state. It embodies core values and captures the hearts and minds of the organisation, while providing guidance and direction.
- **Strategic direction and intent.** The organisation's plan to make its mark in its industry. Clear strategic intentions convey the organisation's purpose and make clear how everyone can contribute.
- **Goals and objectives.** A clear set of goals and objectives can be linked to the mission, vision and strategy, and provide everyone with a clear direction in their work.

#### 4.2.3 **Description of the Scale**

According to Cohen, Montague, Nathanson & Swerdik (1988), rating scales may take various forms but, in general, can be defined as a grouping of words, statements or symbols on which judgements concerning the strength of a particular trait are indicated. One type of rating scale that is relatively easy to construct, yet usually reliable, is a summative scale or Likert scale. Typically employed to scale people on their attitudes, each item on a Likert scale presents the test-taker with five alternative responses, usually on an agree/disagree or

approve/disapprove continuum. Likert experimented with different weightings of the five categories, but concluded that a simple weight of one (for endorsement of items at one extreme) to a weight of five (for endorsement of items at the other extreme) worked well. Because the final score is obtained by summing up the appropriate scale value for each item, scales of this variety are referred to as summative scales.

The scale used in the Denison Organizational Culture Survey is a five-point Likert scale. The numbers of the scale can be defined as follows:

1 = Strongly disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly agree

#### **4.2.4 Interpretation**

The results of the Denison Organizational Culture Survey are displayed in a circular profile as per Figure 4.1. The circular profile displays the four cultural traits of mission, consistency, involvement and adaptability, with three indices within each trait, and provides a powerful graphic representation of an organisation's culture (Denison, 2000a).

##### *4.2.4.1 Norm Group, Quartiles and Percentiles*

The profile displays scores in quartiles and percentiles which compare an organisation's score to the higher and lower performing organisations in the research database. Although a score is displayed for each index by computing the average raw scores of all line items that make up that index, the score is not displayed as a raw score but rather as a percentile. An organisation's results are compared against a norm group which comprises 500 organisations. The norm database includes a wide variety of large and small businesses from around the world, including manufacturing, service, retail, financial, technology, non-profit and government organisations. A percentile is simply a percentage. This method of

classification compares an organisation's results to the average score of the norm group. If an organisation's score on a particular dimension falls within the 75<sup>th</sup> percentile, it would mean that only 25 percent of organisations in the norm group have achieved better scores than the particular organisation and 75 percent of organisations have achieved a lower score. The norm database is continually updated and norms are established by re-computing the cut-off points for the 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles each time the database is updated. A quartile is simply a broader, more general way to look at percentiles. The first quartile represents the 1<sup>st</sup> to the 25<sup>th</sup> percentiles, the second quartile represents the 26<sup>th</sup> to the 50<sup>th</sup> percentiles, the third quartile represents the 51<sup>st</sup> to the 75<sup>th</sup> percentile, and the fourth quartile represents the 76<sup>th</sup> to the 99<sup>th</sup> percentile. Third and fourth quartile scores are those generally found in higher performing organisations, and first and second quartile scores are generally found in lower performing organisations (Denison, 2000b)

#### 4.2.4.2 *Internal versus External Split of the Profile*

According to Denison (2000a), the profile splits horizontally to distinguish between an external focus (top half) and an internal focus (bottom half). Involvement and consistency address the internal dynamics of the organisation, but do not address the interaction of the organisation with the external environment. Adaptability and mission, in contrast, focus on the relationship between the organisation and the external environment. The profile splits vertically to distinguish between a flexible organisation (left half) and a stable organisation (right half). Involvement and adaptability emphasise an organisation's capacity for flexibility and change. Opposite that, the consistency and mission traits emphasise the organisation's capacity for stability and direction. A system oriented toward adaptability and involvement will introduce more variety, more input and more possible solutions to a given situation than a system oriented toward a high level of consistency and a strong sense of mission. In contrast, a bias towards consistency and mission is more likely to reduce the variety and place a larger emphasis on control and stability.

In examining the culture profile of the organisation, it is important to determine in which quadrants of the circular profile the strengths and weaknesses lie, as this will assist with the interpretation of the profile. The ideal situation is to have a large amount of colour in each of

the quadrants, or a balanced profile. Fisher (2000) provides the following interpretation guidelines for identifying culture themes that may emerge:

- **Bottom heavy/top light (strong internal focus).** Often when an organisation is bottom heavy, departments, functions and employees are found competing against each other rather than fighting the real competition. This may result in a loss of focus on competitor activities, and increased turf wars and political games internally. When this bottom heavy profile is combined with a relatively high score in goals and objectives, this may indicate that the organisation has become complacent and is focused on protecting what it currently has, as opposed to securing its future. Change is often heavily resisted throughout the organisation and people who challenge the culture are often driven out of the organisation.
- **Top heavy/bottom light (strong external focus).** This type of pattern is often found in an entrepreneurial company. The focus is on identifying trends and patterns in the marketplace without focusing on the systems, processes and controls required to execute organisational strategies. If creating change is higher than customer focus and organisational learning, and the mission index is on the low side overall, this tends to indicate that the organisation may enjoy embarking on change for no valid reason. This type of change is likely to be perceived by employees as having no real direction or purpose, which tends to lead to high anxiety levels in employees.
- **Strong left side of the profile, weak right side (high flexibility, low stability).** These organisations seem to be highly entrepreneurial and creative, and tend to respond quickly to changes in the marketplace. They often are the first to offer new products and services to their customers. These organisations may lack the focus and internal systems necessary to successfully execute their projects and ideas in a cost-effective manner. This can lead to making promises to customers that they have a hard time delivering.
- **Strong right side of the profile, weak left side (high stability, low flexibility).** These organisations have strong systems and processes in place and can operate with machine-like precision. They often excel at operations and in the execution of plans. In a stable marketplace, these organisations can outperform their competitors but,

once the marketplace starts to change, may have a difficult time responding to the changes due to their strict adherence to rules, regulations and bureaucracy. These organisations are often victims of their own success, as much time and energy is expended on protecting the status quo at the expense of meeting changing customer and product requirements.

#### 4.2.4.3 *Relationship between Traits*

Denison (2000a) indicates that while research shows that the four traits in the model each have a positive impact on performance, some of the traits, at least on the surface, may appear to contradict others. For example, highly consistent cultures may become inbred and may be the most difficult to change. In contrast, highly adaptive cultures may have difficulty in achieving the high rates of efficiency or shared sense of purpose often found in cultures that are well-integrated. In a similar sense, the traits of mission and involvement may also seem contradictory, as the meaning and direction established by an organisation's mission may inhibit the involvement of some of the organisation's members. As many organisations have discovered, simply declaring a new organisational mission does not automatically imply the support and commitment of organisation members. By the same token, high involvement among the organisation's members does not necessarily imply a clear sense of direction and purpose. Denison's research indicates that an effective culture should reflect all of these characteristics. Effective cultures are likely to have cultures that are adaptive, yet highly consistent and predictable, and foster high involvement, but they do so within the context of a shared sense of mission. Thus, when examining the result of the survey as displayed in the circular profile, the more colour there is in the circle, the more effective the culture is likely to be. The phi coefficients showing the relationship between the four traits are shown in figure 4.3 and are discussed in section 4.2.5.2 in this chapter.

The following culture patterns have been identified by Fisher (2000) for each of the traits to be used when navigating the Denison Model:

- **Mission.** When strategic direction, intent and vision are higher than goals and objectives, this indicates that the organisation may have a difficult time executing or operationalising its mission. There may be brilliant visionaries at the helm who have

a difficult time translating dreams into reality. When goals and objectives are higher than strategic direction, intent and vision, this often indicates that the organisation is good at execution but lacks a real sense of direction, purpose or long-range planning. The focus is usually a short term, bottom-line focus with little forward planning.

- **Involvement.** When capability development is higher than empowerment, this can be an indication that the organisation does not entrust capable employees with important decision making that impact their work. Capable employees may feel frustrated that their skills are not being fully utilised and may leave the organisation for better opportunities elsewhere if this is not dealt with. Consequently, this combination is often a warning signal for a possible high turnover rate of people whom the organisation may not want to lose. When empowerment is higher than capability development, this is often an indication that people in the organisation are making decisions that they are not capable of making. This can have disastrous consequences and often happens when managers confuse empowerment with abdication. When team development is higher than empowerment or capability development, it provides an indication that there cannot be much substance to the team. The team is likely to go about their daily activities without a real sense of purpose or without making a contribution to optimal organisational functioning.
- **Adaptability.** When customer focus is higher than creating change and organisational learning, this signifies that the organisation may be good at meeting customer demands currently, but is unlikely to be planning for future customer requirements or leading customers to what they may want in the future. When organisational learning and creating change are higher than customer focus, however, this may provide an indication that the organisation is good at recognising best practices and creating new standards in the industry, but has difficulty in applying their learning to their own customers.
- **Consistency.** When agreement is lower than core values and coordination, this tends to indicate that the organisation may have good intentions, but may become unglued when conflict or differing opinions arise. During discussions, different people might be seen talking at once or ignoring the input of others, and withdrawal behaviours

might be observed. The result is that nothing tends to get resolved and the same issues tend to arise time and time again.

#### 4.2.4.4 *Linkages to Performance*

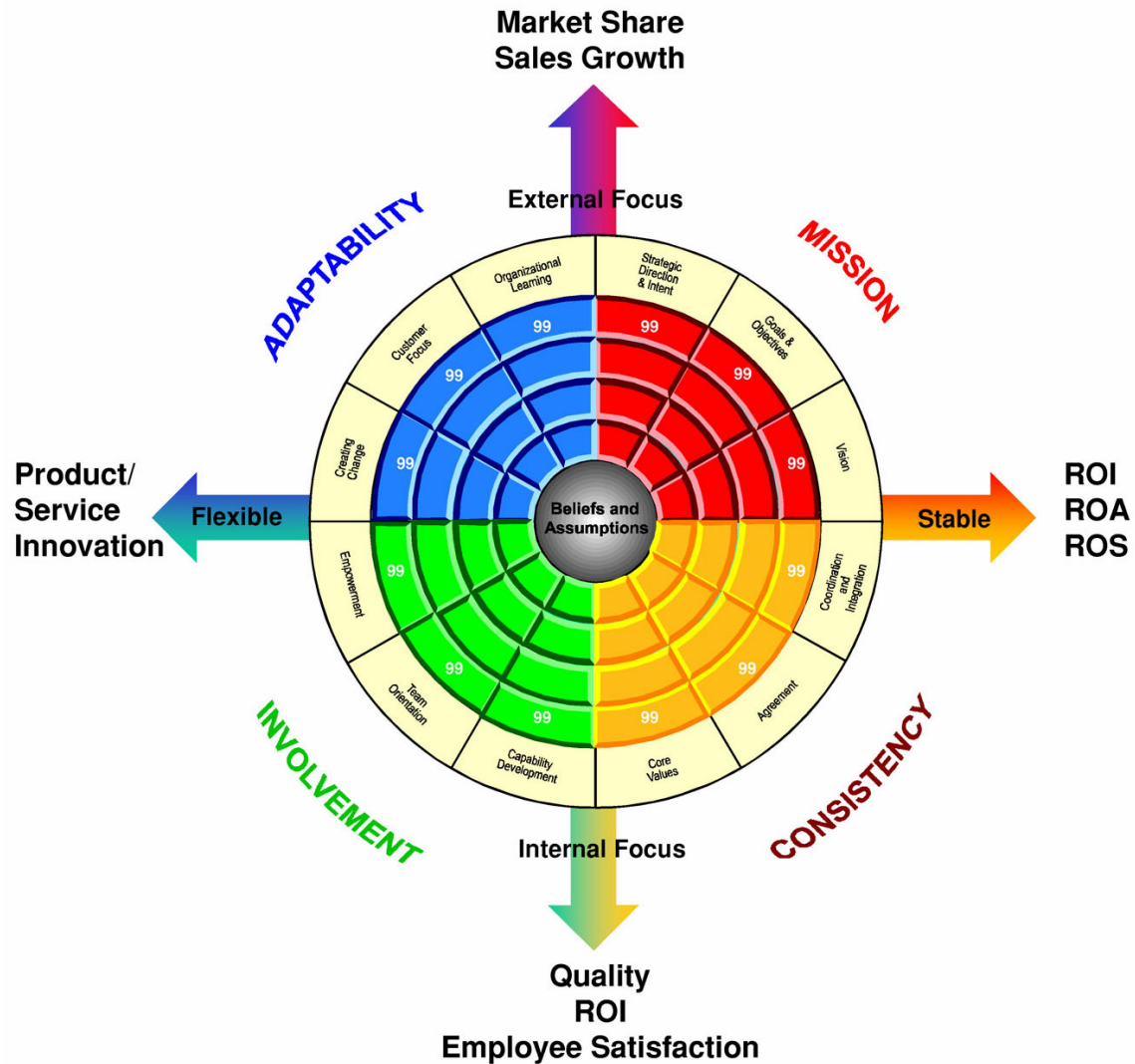
According to Denison (2000c), the most recent research conducted on the Denison Organizational Culture Survey examined 60 companies of various sizes, sectors and industries and showed significant results which link organisational culture to performance. The results of this research indicate that all four traits are positively correlated with return on assets. Denison and Mishra (1995) present the results of the original study linking the cultural traits to return on assets. The correlations between the cultural traits and the 1989 return on assets, and the average return on assets over a three-year period, are shown in table 4.1. The correlations are presented for the entire sample and for a subsample of larger firms with top executive respondents. The correlations of the total sample for 1989 are positive but quite weak, with the largest correlation reaching 0.14. In addition to this, none of the correlations are significant at the 0.05 level and only two of the four correlations with a three-year average return on assets reach that level of significance. A different picture emerges, however, when only those organisations with more than 100 employees that have a top executive respondent are examined. In this case all correlations are greater than 0.20 and range from 0.22 to 0.55. Half of the correlations are significant at the 0.05 level and two of the eight correlations are significant at the 0.01 level. From these results it appears that mission is the strongest predictor of performance, with a correlation of 0.55 at the 0.01 level of significance.

**TABLE 4.1****CORRELATION BETWEEN CULTURAL TRAITS AND RETURN ON ASSETS**

	Total Sample (N = 220)		Sub-sample (N = 24)	
	ROA 1989	ROA 3-year average	ROA 1989	ROA 3-year average
Involvement	0.00	0.09*	0.35**	0.23
Consistency	0.11*	0.14**	0.36**	0.31*
Adaptability	0.07	0.12**	0.25	0.22
Mission	0.11*	0.10*	0.46***	0.55***

\* $p \leq 0.10$ \*\* $p \leq 0.05$ \*\*\* $p \leq 0.01$ 

Later research has indicated that some of the traits are more closely linked to organisational effectiveness measures other than return on assets. These linkages are shown in figure 4.2 (Denison, 2000c).



**Figure 4.2: Linking the Cultural Traits to Performance (Denison, 2000)**

The key linkages that were discovered by Denison (2000c) between cultural traits and performance are highlighted below:

- **Mission and consistency** (stable) tend to impact financial performance measures such as return on assets, return on investment and return on sales. When their rankings fall within the third and fourth quartiles, this typically indicates high returns on assets, investments and sales, and operational strength.
- **Consistency and involvement** (internal focus) tend to impact quality, employee satisfaction and return on investment. When their rankings fall within the third and

fourth quartiles, this typically indicates higher levels of quality, less defects and rework, good utilisation of resources and higher levels of employee satisfaction.

- **Involvement and adaptability** (flexible) typically impact product development and innovation. When their rankings fall within the third and fourth quartiles, this typically indicates higher levels of product and service innovation and creativity, as well as a fast response to customers' and employees' changing needs.
- **Adaptability and mission** (external focus) typically impact revenue, sales growth and market share. When their rankings fall within the third and fourth quartiles, this typically indicates continually increasing sales growth and market share.

#### 4.2.4.5 *Analysis Strategies*

The results of the culture analysis should be viewed within the context of performance data. According to Fisher (2000), the following performance implications should be considered when analysing each trait:

- **Look at the strength of the mission trait.** Ultimately, a strong mission embraced by all levels of the organisation is the highest leverage culture trait within organisations. According to research, mission impacts the greatest number of performance indicators. Thus, if an organisation is not clear about its purpose, strategies and goals, and if these are not embraced by multiple levels of the organisation, a great deal of effort applied to other traits and/or improvement initiatives will ultimately have little impact.
- **Look at the strength of the involvement trait.** Strong involvement as rated by all levels within the organisation is the second highest leverage culture trait within organisations. Involvement impacts four of the six performance measures used by Denison.
- **Look at the strength of the adaptability trait.** Adaptability impacts three of the six performance measures used by Denison. Once the organisation's mission and

involvement are in place, this is an essential element of culture to ensure organisational flexibility, knowledge of the customer and ability to make changes in response to changing customer and marketplace demands.

- **Look at the strength of the consistency trait.** The trait of consistency only impacts two of the six performance measures used by Denison. Certainly, elements of consistency are important for long-term performance and profitability. However, this culture trait does not represent the highest leverage place to intervene in an organisation and, if implemented outside of the context of a strong mission and strong involvement, may end up having little impact on the desired performance improvement.

If the organisation has specific performance objectives, the cultural traits that have been found to have a link to these indicators should be leveraged in order to achieve maximum impact with any culture change intervention. Table 4.2 highlights the desired performance improvement and the appropriate traits that should be focused on in each of these circumstances.

**TABLE 4.2**  
**INTERPRETING THE CULTURE PROFILE THROUGH THE USE OF PERFORMANCE CRITERIA**

Desired Performance Improvement	Traits to Focus On
<ul style="list-style-type: none"> <li>• Increased Overall Profitability</li> <li>• Return on Assets</li> </ul>	<ul style="list-style-type: none"> <li>• Mission</li> <li>• Involvement</li> <li>• Adaptability</li> <li>• Consistency</li> </ul>
<ul style="list-style-type: none"> <li>• Return on Assets</li> <li>• Return on Investment</li> <li>• Return on Sales</li> </ul>	Traits that support stability in an organisation: <ul style="list-style-type: none"> <li>• Mission</li> <li>• Consistency</li> </ul>
<ul style="list-style-type: none"> <li>• Increased Market Share</li> <li>• Competing more Effectively in the Marketplace</li> <li>• Launching into New Markets</li> </ul>	Traits that represent an external focus: <ul style="list-style-type: none"> <li>• Mission</li> <li>• Adaptability</li> </ul>
<ul style="list-style-type: none"> <li>• Increased Sales Growth</li> <li>• Increased Revenue Growth</li> </ul>	Traits that represent an external focus: <ul style="list-style-type: none"> <li>• Mission</li> <li>• Adaptability</li> </ul>
<ul style="list-style-type: none"> <li>• Increased Quality of Products and Services</li> <li>• Return on Investment</li> </ul>	Traits that represent an internal focus: <ul style="list-style-type: none"> <li>• Involvement</li> <li>• Consistency</li> </ul>
<ul style="list-style-type: none"> <li>• Improved Innovation</li> <li>• Improved Development of New Products and Services</li> </ul>	Traits that support flexibility: <ul style="list-style-type: none"> <li>• Adaptability</li> <li>• Involvement</li> </ul>
<ul style="list-style-type: none"> <li>• Improved Employee Satisfaction</li> </ul>	Traits that represent an internal focus: <ul style="list-style-type: none"> <li>• Involvement</li> <li>• Consistency</li> </ul>

**Source: Fisher, 2000**

#### **4.2.5 Reliability and Validity of the Questionnaire**

This section begins by describing the validity and reliability testing done prior to the publication of the survey in November 1995, as well as following the publication of the instrument.

##### *4.2.5.1 Reliability*

The first reliability study was based on a sample of 40 American organisations and 960 individual respondents within those organisations. The objective was to establish the reliability of items in each index. In order to do this, Cronbach's alpha was calculated for each of the indices to make certain that the items written all resulted in indices that had internal consistency scores in the recommended range of 0.60 - 0.90. The first step in the analysis showed that all of the indices had alpha coefficients within the range of 0.62 - 0.82. Thus, it was concluded by Denison that the twelve indices had acceptable reliability. In cases where items needed to be excluded in order to get to the target of five items for each of the twelve indices, the items that decreased the alpha coefficient for the index were excluded from the questionnaire (Denison, 1998).

##### *4.2.5.2 Validity*

The second stage of the analysis was to do a confirmatory factor analysis to see if the index structure fit the model itself. This model treated the twelve indices as the observed measures and the four underlying traits as the latent variables. The structural equation model was estimated using LISREL 8.1 for Windows. The model in figure 4.3 shows the lambda coefficients linking each of the indices to the four traits. These coefficients can be interpreted in a similar way to factor loadings, with a lambda of 1.0 signifying that a particular index is perfectly correlated with the latent variable, and a lambda coefficient lower than 0.50 indicating a relatively weak link between the index and the latent variable. These linkages show that the loadings are strong and relatively consistent, indicating good support of the underlying model (Denison, 1998).

As indicated by Denison (1998), the second set of coefficients shown in figure 4.3 are the phi coefficients linking the four latent variables of involvement, consistency, adaptability and mission. These coefficients are somewhat like inter-correlations among the four traits, although defining these four traits as latent variables in a structural equation model tends to inflate the phi coefficient to a higher level than a simple correlation. In this analysis the phi coefficients are very high, indicating a close relationship between the four traits. This finding supports the idea that these are four characteristics of high performing organisations. Thus, if high performing organisations have one of these characteristics, they are also likely to have the other three. However, it also tends to indicate that the four traits are less clearly separable than the model suggests. Overall, this analysis does provide support for the model, and defining these four traits as latent variables does estimate the relationship between them as 0.10-0.20 higher than would be a simple measure of inter-correlation.

The goodness of fit statistics used to evaluate structural equation models shows that this model fits the data relatively well. The chi-square statistic with 48 degrees of freedom is 217.73 ( $p=0.00$ ), the standardised root mean square residual is 0.027 and the comparative fit index is 0.97 (Denison, 1998). A later study conducted by Cho (2000) presented a RMSEA value of 0.053 for the hypothetical model, indicating a good fit and thus supporting the original goodness of fit findings. These statistics show that despite the problems with the high interrelationships between the four traits, this analysis still meets the basic standards devised for evaluating structural equation models.

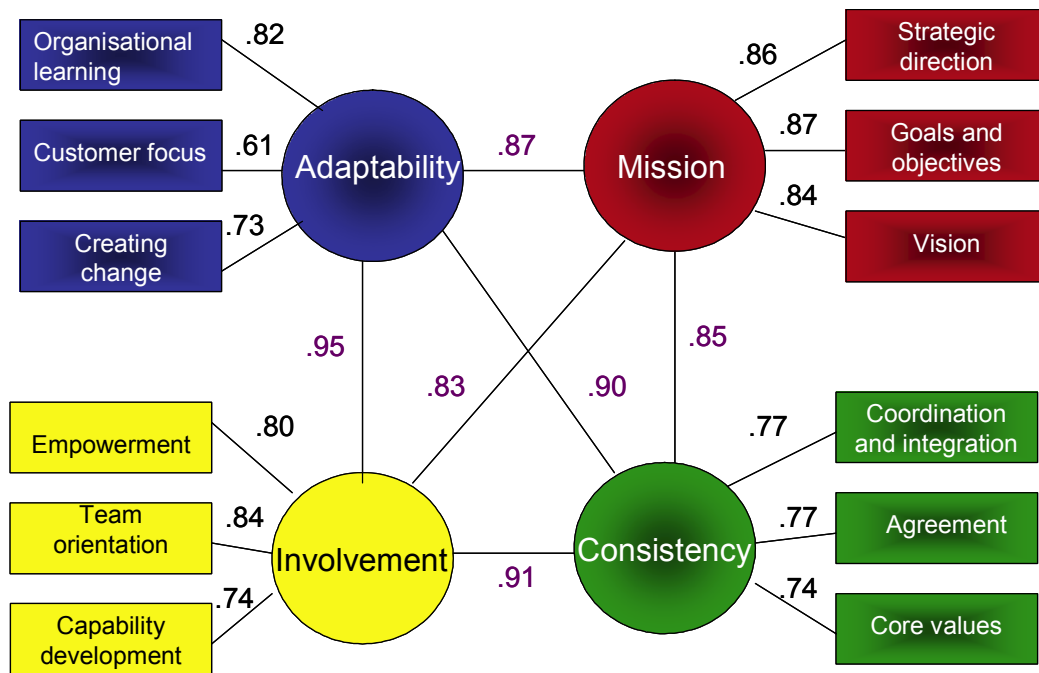


Figure 4.3: Confirmatory Factor Analysis of the Denison Culture Model (Denison, 1998)

#### 4.3 ADMINISTRATION OF THE QUESTIONNAIRE

The Denison Organizational Culture Survey is a self-report inventory. It can either be administered in a paper-and-pencil format or electronically via the Internet. In order to ensure an optimal response rate, the Denison Organizational Culture Survey was administered to the sample of 327 employees in the following departmental groupings:

- Risk
- Treasury
- Information Technology
- Structured Finance
- Capital Accounts and International Operations

- Property
- Corporate Finance
- Corporate Equities
- Multi-manager/Marketing
- Human Resources
- Corporate Administration and Project Management
- Economic Unit
- Legal and Tax
- Group Finance and Personnel

Instead of sending the questionnaires to the employees via mail or electronically, special sessions were set up with each department in March 2002 to explain the rationale behind the use of the questionnaire by using a standardised presentation to provide the employees with instructions for completing the questionnaire. A paper-and-pencil version of the instrument was thus used with no time limit for completion. Employees were asked to complete the questionnaire with the administrator present and to hand it in before leaving the room.

#### **4.4 DATA PROCESSING**

The responses of the 327 subjects on the 60- item Denison Organizational Culture Survey, as well as the biographical data, were captured onto an Excel spreadsheet by a data capturer and were then verified. The data was then sent to Denison Consulting who uploaded it onto their database for scoring and for comparison against the norm group. Reports were produced for the organisation overall and then per department, region, level and race. In

addition to this, the financial performance data of each department was captured onto an Excel spreadsheet. All data was then converted into SPSS (Field, 2000) databases.

## 4.5 STATISTICAL METHODS AND STRATEGIES

A confirmatory factor analysis procedure was performed by means of the SPSS program called AMOS (Arbuckle & Wothke, 1995-1999) to test the following factor structures of the Organisational Culture questionnaire:

- the proposed three-factor structure for each of the factors/dimensions, namely involvement, consistency, adaptability and mission
- the proposed four-factor structure for the 12 dimensions

AMOS is the acronym for Analysis of Moment Structures. It implements the general approach to data analysis known as structural equation modelling (SEM), also known as analysis of covariance structures or causal modelling (Arbuckle & Wothke, 1995-1999).

The AMOS graphics programme allows the researcher to draw the model to be tested as a path diagram, using circles to indicate latent or hypothetical variables and rectangles to indicate observed variables. These path diagrams are described as schematic representations of models which visually display the relationships which are assumed to exist between the variables being examined (Byrne, 2001). In order to understand this method of investigating the causal relationship between variables, several important issues should be highlighted.

### 4.5.1 Statistical Significance Testing

According to Spiegel (1972), the level of significance is the maximum probability with which a researcher would be willing to risk the rejection of the null hypothesis where in fact it should have been accepted. This probability is generally specified before any samples are drawn, so that the results obtained will not influence the researcher's choice. In practice a level of significance of 0.05 or 0.01 is customary, although other values may be used. If a 0.05

or five percent level of significance is chosen to test the hypothesis, then there are about five chances in 100 that the researcher could reject the hypothesis when it should be accepted, that is, the researcher is 95 percent confident that the right decision has been made. In such a case, the researcher would reject the null hypothesis at 0.05 level of significance, which means that the decision could be wrong with a probability of 0.05.

In terms of the power of a statistical test, not only is the level of significance important, but also the sample size. The larger the sample size, the more powerful the statistical test will be, as it is more likely that the null hypothesis will be rejected when it is false (Jaccard & Becker, 2002). If samples are large, however, even the best models may have to be rejected if emphasis is based solely on the p-value (Hays, 1994). In the present study, the sample size of 327 represented a moderately large sample.

According to Hays (1994), it is well-known that the p-value of a test generally decreases as the sample size increases. In the case of the usual tests such as the t-test and analysis of variance F-tests, the a small p-value is usually desirable in order to reject the null hypothesis. The rejection of the null hypothesis leads to the acceptance of the alternative hypothesis which usually implies some relation between two variables. In the case of analysis of covariance structures, or causal modelling, or confirmatory factor analysis in the present study, the null hypothesis states that the model proposed fits the data. The aim is to retain the null hypothesis and thus a small p-value is not desirable.

A chi-square test is usually performed on the null hypothesis which states that the model fits the data. Of more importance than the chi-square test are the so-called “goodness of fit” statistics developed by various researchers (Byrne, 2001). These statistics attempt to give an impression of how close the proposed model fits the data. In the present study, the goodness of fit statistics used was the RMSEA.

According to Byrne (2001, p.84), the RMSEA attempts to answer the question: “How well would the model, with unknown but optimally chosen parameters, fit the population covariance model if it was available?”. RMSEA values less than 0.05 indicate a good fit and higher values, such as 0.08, are indicative of reasonable estimations in the population. Other researchers have, however, recently highlighted that RMSEA values ranging from 0.08 to

0.10 indicate a mediocre fit and values larger than 0.10 indicate a poor fit (Byrne, 2001). The AMOS graphics program used in the present study reports the RMSEA value.

#### *4.5.1.1 Statistical Testing with Small Samples*

The financial performance data of the seven revenue generating departments was correlated with their mean scores on each of the 12 organisational culture dimensions. By using revenue generating departments only, the sample size was reduced. Due to the small number of observations, the statistical tests lack power (ability to detect significant results). The size of correlations are, however, an indication of the practical effect size of the linear relationship between two variables. In the present study, correlations above 0.50 will be noted even though they may not be quite significant at the 0.05 level.

#### *4.5.1.2 Statistical Testing with Large Samples*

All 327 cases were used to compare the departments on each of the 12 organisational culture dimensions. The level of significance was adjusted to compensate for the accumulation of the Type I error. A Type I error is said to be made when the tested hypothesis is wrongly rejected (Hays, 1994). Instead of a conventional 0.05 level, a more severe level of 0.005 was used.

### **4.5.2 Internal Consistency Reliability Analyses of the Scales**

The internal consistency reliability of each scale was calculated by calculating the Cronbach alpha. Internal consistency refers to the degree to which the items inter-correlate or the degree to which the items measure the same trait (Lemke & Wiersma, 1976).

### **4.5.3 Pearson Product-Moment Correlations**

The Pearson Product-Moment correlation was calculated between interval-scaled variables such as the financial performance data of each department and their mean levels on the organisational culture dimensions. Correlation is the degree of relationship between

variables, which seeks to determine how well a linear or other equation describes or explains the relationship between variables (Spiegel, 1972).

A correlation coefficient varies in value from -1 (which represents a perfect negative correlation) to + 1 (which represents a perfect positive correlation). A value of 0 indicates that there is no linear correlation between the variables. However, this does not indicate that there is no correlation at all, as there may be a high non-linear correlation. Suppose a positive correlation of 0.5 between variable X and Y is found. This means that the higher a person's score on X, the higher that same person's score will be on Y. However, if the correlation is negative, for example -0.5, then the higher a person's score on X, the lower that same person's score is likely to be on Y (Spiegel, 1972). The general expectation in the current study was that the higher a department was on any or all of the organisational culture dimensions, the better that department's financial performance data would be. Depending on the financial ratio concerned, a positive or negative correlation may be desirable.

#### **4.5.4 Comparison of Means Using the Analysis of Variance Strategy**

In the present study, the various departments were compared to each other with respect to the various dimensions of the Denison Organisational Culture Questionnaire by using the analysis of variance approach (Jaccard & Becker, 2002). The one-way analysis of variance F-test with its associated p-value was performed to test whether the differences between the departments were statistically different with regard to the 12 dimensions of the Denison Organisational Culture Questionnaire. In the event of a significant F-test, Bonferroni post hoc tests (Hays, 1994) were performed to establish which pair-wise differences between departments were statistically significant.

#### **4.5.5 Statistical Computer Package**

All statistical analyses in the present study were computed using the SPSS statistical package for Windows version 11.0 (Field, 2000), as well as the program AMOS (Arbuckle & Wothke, 1995-1999) which is also distributed by SPSS.

## 4.6 FORMULATION OF HYPOTHESIS

A research hypothesis has to be formulated regarding the relationship between organisational culture and financial performance in order to allow for the empirical testing of the relationship between these two variables.

The following research hypothesis addresses the objectives of this study:

- $H_{01}$ : There is no relationship between the organisational culture and financial performance.
- $H_0$ : There is a relationship between the organisational culture and financial performance.

The research hypothesis will be tested by analysing the relationship between the organisational culture profile and the financial performance of each department.

## 4.7 CHAPTER SUMMARY

In this chapter, the theoretical basis for the Denison Organizational Culture Survey was discussed and its dimensions, scale and interpretation were explained. The reliability and validity of the questionnaire were then described. The data collection strategy was explored, followed by the data processing approach followed in this study. With regard to the statistical analysis, an overview was presented of the AMOS statistical package and relevant issues, such as significance testing and the influence of sample size, were addressed. The use of internal consistency reliability, the Pearson Product-Moment correlation and the one-way analysis of variance in order to test the hypothesis were discussed. The chapter concluded with the formulation of the research hypothesis. The research results will be presented in chapter 5.

## **CHAPTER 5**

### **RESULTS OF THE RESEARCH**

The aim of this chapter is to discuss the statistical results of the study. Although the main results are concerned with exploring the relationship between financial performance data and organisational culture, results concerning the validity and reliability of the Denison Organizational Culture questionnaire will also be provided.

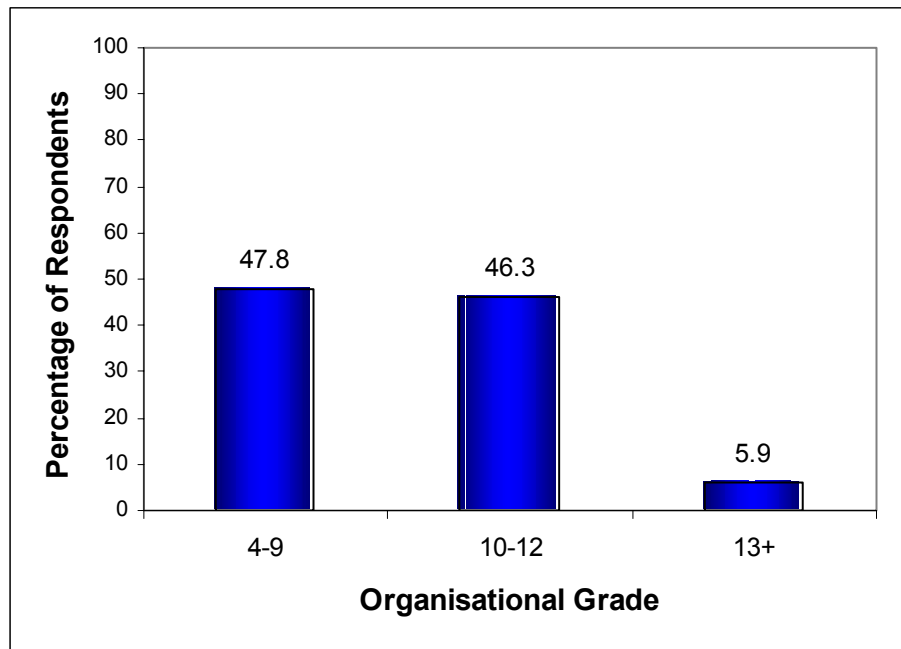
#### **5.1 BIOGRAPHIC PROFILE OF SAMPLE**

The breakdown of the sample per department is reflected in table 5.1. There were 14 departments in total; however, the six non-revenue generating departments were later collapsed into one department to distinguish between revenue generating departments and non-revenue generating departments. Non-revenue generating departments were excluded from the analysis of organisational culture and financial performance, thus leaving a total of seven departments to be used in this research.

**TABLE 5.1**  
**BIOGRAPHIC PROFILE OF THE RESEARCH SAMPLE**

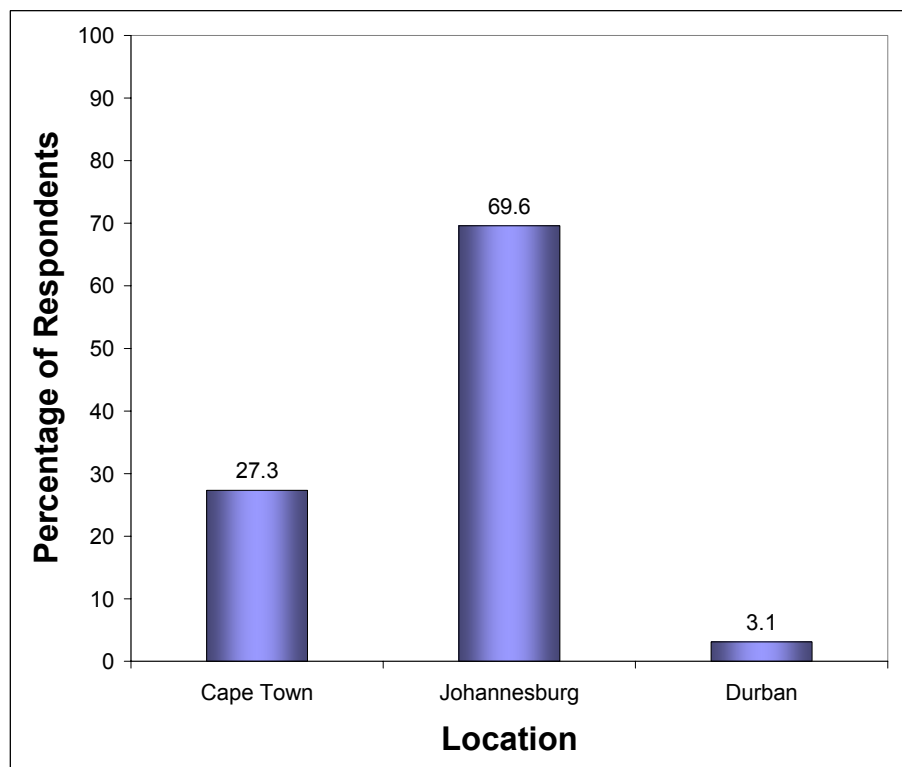
	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Risk	15	4.6	4.6	4.6
Treasury	72	22	22.1	26.7
Information Technology	50	15.3	15.3	42
Structured Finance	32	9.8	9.8	51.8
Capital Account/Intl Operations	5	1.5	1.5	53.4
Property	42	12.8	12.9	66.3
Corporate Finance	16	4.9	4.9	71.2
Corporate Equities	6	1.8	1.8	73
Multi-manager/Marketing	22	6.7	6.7	79.8
Human Resources	4	1.2	1.2	81
Corporate Admin/Project Management	18	5.5	5.5	86.5
Economic Unit	8	2.4	2.5	89
Legal and Tax	8	2.4	2.5	91.4
Group Finance/Personnel Admin	28	8.6	8.6	100
<b>Total</b>	<b>326</b>	<b>99.7</b>	<b>100</b>	
<b>Missing</b>	1	0.3		
<b>Total</b>	327	100		

Figure 5.1 indicates the breakdown of the sample according to grade or level. This indicates that 47.8 percent of the sample was employed at a clerical, supervisory or junior management level, 46.3 percent of the sample was employed at a middle or senior management level, and 5.9 percent of the sample was employed at a general management or executive level.



**Figure 5.1: Sample Split by Grade**

Figure 5.2 shows the biographical split according to location and indicates that the majority of respondents were situated in Johannesburg.



**Figure 5.2: Sample Split by Location**

Figure 5.3 depicts the length of time that respondents in the sample were employed by the organisation.

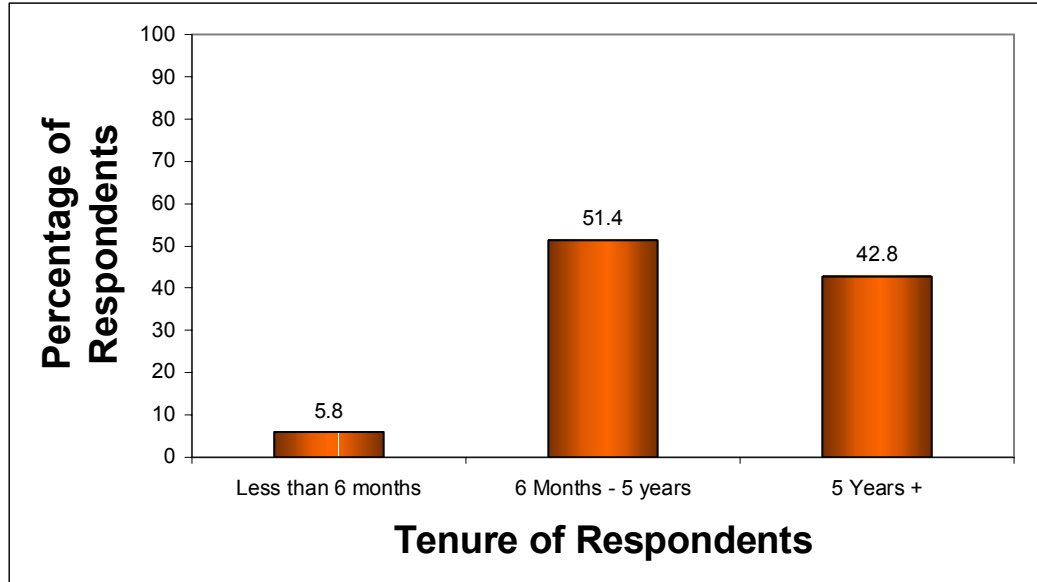


Figure 5.3: Sample Split by Tenure

Figure 5.4 indicates the breakdown of the sample according to race and shows that 68.6 percent of the respondents were white. This was, however, representative of the overall demographic breakdown of the organisation.

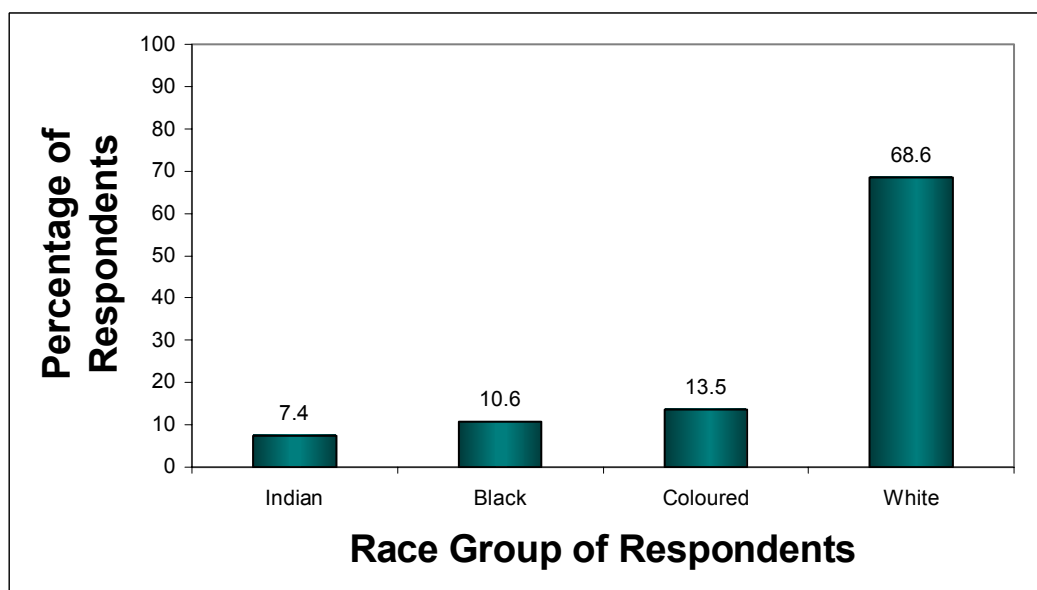


Figure 5.4: Sample Split by Race

## 5.2 ORGANISATIONAL CULTURE PROFILE: OVERALL RESULTS

Figure 5.5 illustrates the results obtained from the Denison Organizational Culture Survey for the organisation overall. The departmental organisational culture profiles are shown in appendix 1. The results from the survey were captured onto the Denison Consulting database and benchmarked against other organisations for which long-term financial performance results were available. The results for each organisational culture trait and dimension were found to be in the first and second quartiles, thus indicating that for the majority of the culture dimensions, more than 50% of organisations in the benchmark group obtained higher scores than the organisation in this study. The exact percentile scores for each dimension are reflected in Figure 5.5. As explained in Chapter 4 (4.2.4.1), the culture profiles of high performing organisations usually fit into the third and fourth quartiles for all cultural traits. This implies that the culture profile of the investment bank in this study is similar to that of organisations that do not display financial success in the longer term.

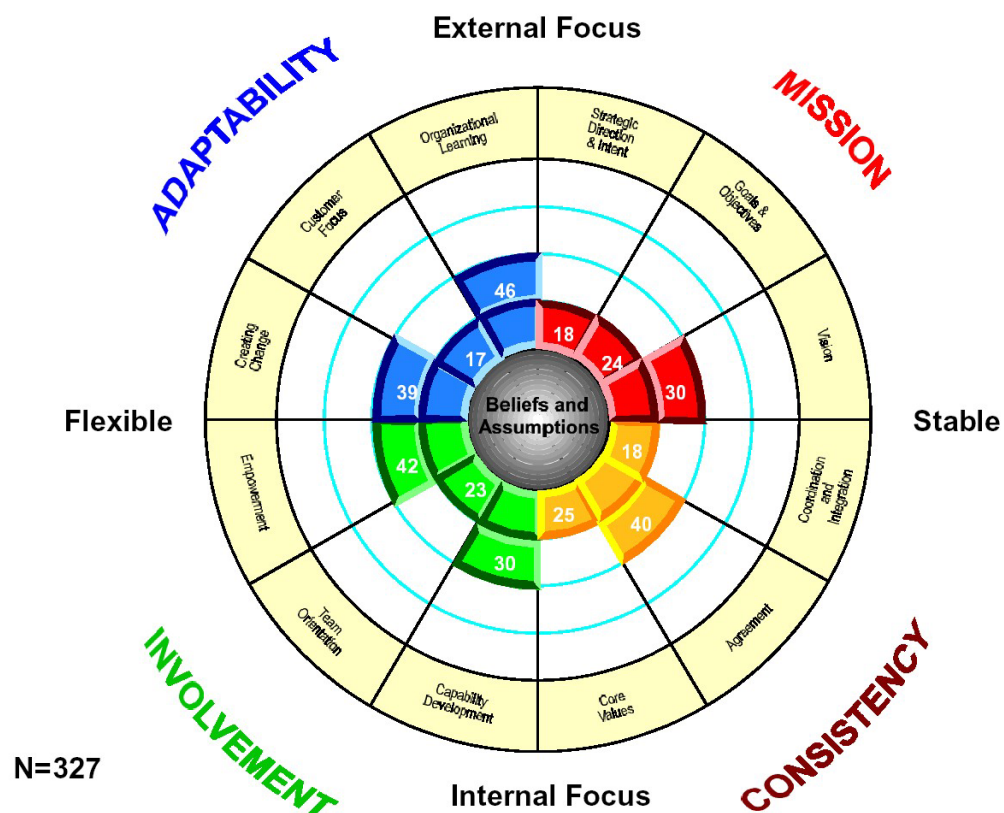


Figure 5.5: Culture Profile of the Organisation

The left-hand side of the model displays stronger results than the right-hand side, thereby indicating that the organisation was relatively entrepreneurial and creative, and tended to respond quickly to changes in the marketplace. Internal systems may, however, have been lacking to support the ability to deliver on promises to customers.

When examining the results, three key areas of concern can be highlighted. The first area of concern is customer focus, for which the organisation obtained a percentile score of 17. This indicates that 83 percent of organisations in the benchmark group obtained better scores on this dimension. The second area of concern is coordination and integration. The organisation obtained a percentile score of 18 for this dimension, thus indicating that 82 percent of organisations in the benchmark group obtained better scores for the ability of the different departments to work together towards a common goal. The third area of concern is strategic direction and intent for which a percentile score of 18 was obtained. This indicates that 82 percent of organisations in the benchmark group obtained better scores for the ability to convey the organisation's purpose and for making clear how all employees can contribute to the achievement of the purpose.

Although no scores were obtained in the third and fourth quartiles, certain areas can be considered as strengths for this particular organisation when the results are compared relative to each other. The first area of strength is organisational learning for which the organisation obtained a percentile score of 46. This indicates that the organisation was likely to receive, translate and interpret signals from the environment for the purpose of encouraging innovation, gaining knowledge and developing capabilities. The second area of strength is empowerment for which the organisation obtained a percentile score of 42. This implies that to some extent, individuals had the authority, initiative and ability to manage their own work. The third area of strength is agreement, for which a percentile score of 40 was obtained. This indicates that the organisation was likely to reach agreement on critical issues and to reconcile differences when they arose.

When examining the relationship or dynamics between the traits and dimensions, one area of concern clearly emerges. The scores obtained on strategic direction and intent, as well as goals and objectives are low, whilst the score obtained on empowerment is fairly high. This tends to indicate that people had the authority and initiative to manage their own work, but were unclear regarding the purpose of the organisation and the goals and objectives required

to drive the achievement of the mission and vision. There would, thus, likely be a lack of alignment to the overall strategic direction of the organisation and employees could undertake actions that could prevent the achievement of strategic objectives. The organisational learning score is also relatively high, whilst the customer focus score is low. This could be an indication that the organisation continuously tried to innovate and adopt best practices; but the initiatives did not necessarily have any value to the customer. The organisation could face the danger of becoming too internally focused.

According to the theory of the Denison organisational culture model described in Chapter 4, obtaining results in the first and second quartiles would imply poor to mediocre results for return on assets, return on sales and return on equity in the longer term. When examining the financial data at that point in time (March 2002), the return on equity was 18.74 percent. The cut-off point for higher performing organisations used by Denison is 21 percent. The concurrent data thus supports the theory that that organisation would not fit into the high-performing organisation benchmark group if the results obtained on the culture profile fell within the first and second quartiles.

### **5.3 RELIABILITY OF THE DENISON ORGANIZATIONAL CULTURE SURVEY**

The results of the alpha coefficients for the Denison Organizational Culture Survey are presented in table 5.2. Results for the 12 subscales, the 15 inter-items in each index and the three scales are presented in the last three columns of the table.

**TABLE 5.2**  
**DESCRIPTIVE STATISTICS AND ALPHA COEFFICIENTS FOR THE DENISON**  
**ORGANIZATIONAL CULTURE SURVEY**

4 Indices & 12 Scales	# items	N	Mean	SD	$\alpha$ (Cronbach coefficient alpha for subscales)	$\alpha$ (Cronbach coefficient alpha from 15 inter- items)	$\alpha$ (Cronbach coefficient alpha from 3 scales)
<b>Involvement</b>			3.27	.495		.836	.736
Empowerment	5	326	3.30	.594	.713		
Team Orientation	5	326	3.18	.693	.788		
Capability Development	5	327	3.34	.537	.558		
<b>Consistency</b>			3.13	.467		.808	.721
Core Values	5	327	3.34	.564	.613		
Agreement	5	325	3.15	.509	.586		
Coordination and Integration	5	326	2.90	.650	.737		
<b>Adaptability</b>			3.19	.458		.816	.764
Creating Change	5	326	3.13	.552	.641		
Customer Focus	5	322	3.28	.547	.678		
Organisational Learning	5	327	3.16	.580	.633		
<b>Mission</b>			3.10	.569		.901	.852
Strategic Direction & Intent	5	326	3.09	.707	.844		
Goals & Objectives	5	325	3.28	.578	.742		
Vision	5	326	3.30	.616	.735		

When examining the results of the subscales, most of them appear to have acceptable internal consistency reliabilities of above 0.60. The capability development and agreement

subscales, however, appear to have low reliabilities. The alpha coefficient of 0.558 obtained from the capability development subscale suggests that the subscale does not correlate strongly with the involvement index. A similar result was obtained for the agreement subscale, for which an alpha coefficient of 0.586 was obtained. This suggests that the agreement subscale does not correlate strongly with the consistency index. These results may indicate that the structure of the culture model should be explored in further research. However, the fact that this is a single study and the sample size is small should be taken into consideration when making any recommendations regarding the instrument.

The results of the alpha coefficient from the 15 inter-items range from 0.808 to 0.901. This indicates that the 15 items in each scale have internal consistency reliabilities within the recommended range. The results of the alpha coefficient from the three scales under each index range from 0.721 to 0.852, thus indicating that the three scales within each index have internal consistency reliabilities within the recommended range. It can thus be said that the survey items, scales and subscales have acceptable reliabilities, although there is a slight concern regarding the capability development, agreement and coordination subscales.

TABLE 5.3

ITEM-TOTAL CORRELATIONS, INTER-ITEM CORRELATIONS, ALPHA VALUE  
CHANGES WHEN ITEMS ARE DELETED, N, MEAN, S.D

Index	Scale	Item	Item-Total Correlation	Alpha after deleting this item	N	Mean	S.D.
Involvement $\alpha = .836$	Empower- ment $\alpha = .713$	1	.390	.697	317	3.86	.674
		2	.486	.660	317	3.31	.898
		3	.523	.644	317	2.99	.916
		4	.476	.664	317	3.23	.880
		5	.490	.659	317	3.12	.933
	Team Orientation $\alpha = .788$	6	.435	.794	316	2.91	1.003
		7	.659	.718	316	3.13	.940
		8	.657	.719	316	3.29	.946
		9	.588	.743	316	3.42	.885
		10	.512	.766	316	3.10	.915
	Capability Development $\alpha = .558$	11	.285	.520	315	3.34	.886
		12	.401	.46	315	3.43	.767
		13	.370	.47	315	3.17	.970
		14	.484	.41	315	3.56	.764
		15	.127	.62	315	3.20	.998
Consistency $\alpha = .808$	Core Values	16	.272	.610	308	3.01	.946
		17	.337	.570	308	3.28	.855
		18	.569	.440	308	3.26	.896
		19	.316	.580	308	3.56	.887
		20	.365	.560	308	3.51	.784
	Agreement $\alpha = .586$	21	.352	.520	318	3.34	.813
		22	.308	.550	318	2.94	.938
		23	.428	.480	318	2.94	.798
		24	.339	.530	318	3.11	.782

TABLE 5.3(Continued)

Index	Scale	Item	Item-Total Correlation	Alpha after deleting this item	N	Mean	S.D.
		25	.297	.550	318	3.38	.817
	Coordination & Integration	26	.277	.760	309	3.34	.855
	$\alpha = .737$	27	.561	.660	309	2.72	.892
		28	.645	.630	309	2.63	.925
		29	.486	.690	309	2.68	1.007
		30	.550	.670	309	2.97	.848
Adaptability $\alpha = .816$	Creating	31	.350	.600	309	2.82	.892
	Change	32	.470	.540	309	3.41	.843
	$\alpha = .641$	33	.560	.500	309	3.45	.798
		34	.335	.617	309	2.93	.872
		35	.264	.644	309	2.97	.778
	Customer	36	.408	.639	309	3.24	.716
	Focus	37	.504	.597	309	3.26	.782
	$\alpha = .678$	38	.448	.621	309	3.08	.891
		39	.464	.613	309	3.33	.902
		40	.347	.663	309	3.42	.796
	Organisation al	41	.417	.565	315	3.25	.929
	Learning	42	.383	.582	315	3.02	.925
	$\alpha = .633$	43	.300	.622	315	2.99	.915
		44	.436	.558	315	3.67	.839
		45	.403	.572	315	2.83	.910
Mission $\alpha = .901$	Strategic	46	.615	.822	303	3.19	.911
	Direction &	47	.565	.834	303	2.96	.817
	Intent	48	.740	.788	303	3.18	.885
	$\alpha = .844$	49	.768	.779	303	3.09	.911
		50	.578	.834	303	2.83	.964

**TABLE 5.3 (Continued)**

Index	Scale	Item	Item-Total Correlation	Alpha after deleting this item	N	Mean	S.D.
	Goals & Objectives	51	.519	.692	306	3.05	.847
		52	.473	.708	306	3.31	.818
	$\alpha = .742$	53	.449	.717	306	3.33	.794
		54	.576	.670	306	3.37	.821
		55	.508	.696	306	3.26	.824
	Vision	56	.652	.625	311	2.75	.871
	$\alpha = .735$	57	.609	.642	311	3.25	.921
		58	.203	.795	311	2.61	.849
		59	.514	.683	311	2.89	.803
		60	.561	.672	311	3.19	.704

Table 5.3 shows the alpha coefficients for each of the indices and the scales as reflected in table 5.2, as well as the item total correlation and the alpha coefficient after deleting each item. If the alpha coefficient is increased after deleting an item, it provides an indication that the item may not fit the scale and its removal should be considered. When examining the results of each item, the alpha coefficients after deleting the items generally decrease, with a few items increasing the alpha coefficient by a small amount. The only results that are cause for concern are those of item 15 in the capability development subscale. If item 15 is deleted, the alpha coefficient will be increased by 0.62. This is significant because it suggests that the subscale could be more reliable if item 15 was removed.

## 5.4 VALIDITY OF THE DENISON ORGANIZATIONAL CULTURE SURVEY

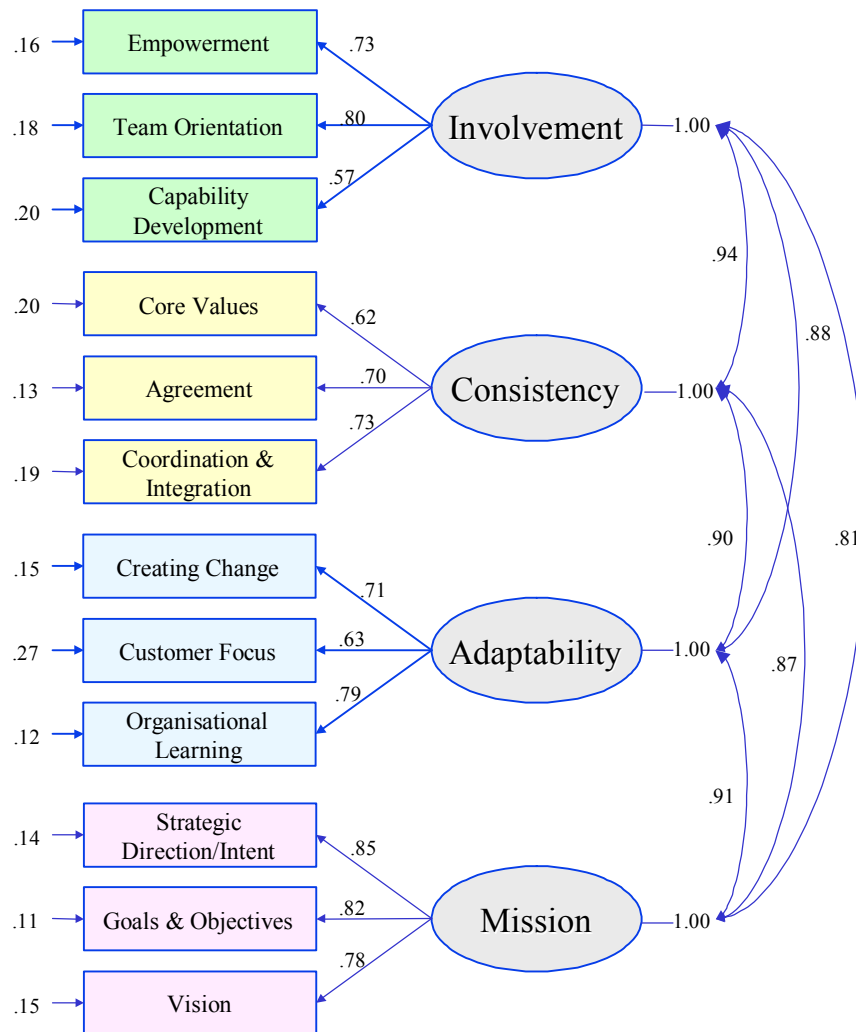
Figure 5.6 shows a path diagram of the four organisational culture indices and the 12 scales of the Denison Organisational Culture model. An explanation of each of these indices and scales can be found in Chapter 4. Each index or cultural trait is represented as a latent variable or factor, measured by a number of items.

The correlations between the four organisational culture indices are high, ranging from 0.81 to 0.94. These are indicated in Figure 5.5. by the arrows linking the four main indices together. This indicates that the indices cannot be strongly differentiated from each other and thus raises the question as to whether the items are in fact measuring different indices, or whether they are measuring a single index. Gorsuch (1997) indicates that confirmatory factor analysis could fail to provide clear results when correlations between latent variables are too high. It can be concluded that the items constructed for each index overlap to the extent that the scales cannot be considered as factorially pure. Similar findings were presented in the original validity studies conducted by Denison and are presented in Chapter 4. Denison did, however, justify these findings by indicating that the results verify that all four traits should be present for the organisation to be successful and that the high inter-correlations of the indices thus make sense. These results once again suggest that future research on the instrument should examine the structure of the Denison Organisational Culture Model.

The next issue addressed is whether the model of these four cultural traits fits the data. Both the RMSEA and the chi-square results were calculated. However, it was decided to use a goodness of fit statistic rather than the chi-square, as the results of the latter often indicate that models do not fit the data in the social sciences. This is due to the fact that the probability of obtaining a non-significant chi-square becomes extremely small with large sample sizes. The RMSEA value was found to be 0.062, thus indicating a relatively good fit of the overall model. This exercise was repeated to examine the structure of each of the organisational culture traits. For the involvement dimension the RMSEA value was 0.059, indicating a good fit; for adaptability the RMSEA was found to be 0.077, indicating a relatively good fit; for consistency the RMSEA was found to be 0.083, indicating a mediocre fit; and for mission the RMSEA was found to be 0.061, indicating a good fit. The path diagrams for each cultural trait can be found in appendix 2.

Chi-square=108.897,  $p=.0000$ ,

RMSEA = .062



**Figure 5.6: Path Diagram of the Hypothetical Model Showing the Causal Relations between the Four Organisational Culture Traits**

## 5.5 CRITERIA FOR SUCCESS: FINANCIAL PERFORMANCE DATA

Although financial performance data was obtained for all 14 departments, it was decided that only the financial data of the seven revenue generating departments would be used. The inclusion of the financial data of all the support services departments would have skewed the overall picture, as they were cost centres that only had expenses and did not earn any income. Financial data was available for the year 2002 as well as for the previous financial

year. The analysis in table 5.5 below will show that a reasonable correlation existed between the two years' financial performance data, with the exception of the effective tax rate performance measure. See section 3.4.1.1 in chapter 3 for a discussion of the various financial performance measures.

**TABLE 5.4**  
**FINANCIAL PERFORMANCE RESULTS FOR THE REVENUE GENERATING**  
**DEPARTMENTS AS AT MARCH 2002**

Departments	Effective Tax Rate	NII/ Operating Income	NIR/ Operating Income	Operating Expenses/ Operating Income	NIAT / Operating Income
Corporate Finance	25.7%	2.3%	97.7%	140.6%	-34.5%
Capital Account	12.2%	1.7%	98.3%	10.6%	77.1%
Multi-manager	25.8%	-6.8%	106.8%	130.7%	-24.9%
Corporate Equities	67.8%	86.6%	13.4%	-61.7%	52.9%
Property	23.5%	74.3%	25.7%	46.2%	24.1%
Structured & Project Finance	25.0%	50.8%	49.2%	37.9%	44.6%
Treasury	-12.1%	54.6%	45.4%	61.8%	40.4%
<b>Organisation Overall</b>	<b>6.0%</b>	<b>24.4%</b>	<b>75.6%</b>	<b>40.1%</b>	<b>51.2%</b>

Table 5.4 shows the financial performance results per department and for the organisation overall. It is desirable for the Effective Tax Rate and the Operating Expenses/Operating Income ratios to be as low as possible. The Net Income after Interest and the Tax (NIAT)/Operating Income ratio should, however, be as high as possible. The reader should be able to see that the Net Interest Income (NII)/Operating Income and the Non-interest Revenue (NIR)/Operating Income ratios are the exact inverse of each other. There is no preferred ratio between these two; however, the balance between these ratios will fluctuate between the departments depending on whether income is primarily generated from interest or non-interest sources. For the purpose of this study and in order to avoid repetition, it was decided to use the NII/Operating Income for all statistical analyses and thus NIR/Operating Income will not be reflected. If the departments are assessed against the ratios above in totality, it would appear that the two best performing departments were Capital Account, and Structured and Project Finance.

### 5.5.1 The Correlations between Previous and Current Year Financial Performance Measures

**TABLE 5.5**  
**CORRELATIONS BETWEEN PREVIOUS AND CURRENT YEAR FINANCIAL PERFORMANCE DATA**

			<b>Current</b>		
			<b>Effective Tax Rate - Current</b>	<b>NII/Operating Income - Current</b>	<b>Operating Expenses/Operating Income - Current</b>
<b>Prior</b>		Pearson Correlation	<b>0.11</b>	0.58	-0.26
	<b>Effective Tax Rate - Prior</b>	Sig. (2-tailed)	0.82	0.17	0.57
	<b>NII/Operating income - Prior</b>	-Pearson Correlation	0.40	<b>0.81</b>	-0.87
		Sig. (2-tailed)	0.37	0.03	0.01
	<b>Operating expenses/Operating income - Prior</b>	Pearson Correlation	-0.40	-0.56	<b>0.96</b>
		Sig. (2-tailed)	0.37	0.19	0.00

The correlations between prior and current years ranged from 0.11 to 0.96. The performance measures of NII/Operating Income and Operating Expenses/Operating Income have high correlations with the previous years' figures (0.81 and 0.96 respectively). The effective tax rate, however, has a correlation of 0.11 with the previous years' financial results. This is due to the fact that it is a measure that is likely to vary considerably based on earnings and it is unlikely to be the same year after year unless sales, prices and expenses remain stable. In addition to this, organisational culture is a relatively stable phenomenon and is unlikely to change significantly during the course of one year. It was therefore decided to use the mean of the two years' financial data instead of just the current year's data.

### 5.5.2 Correlations between Financial Performance Measures

The extent to which the various financial performance measures correlate with each other may be considered as a checking mechanism for the internal validity of these measures. The inter-correlations are given in Table 5.6.

TABLE 5.6

## CORRELATIONS BETWEEN FINANCIAL PERFORMANCE MEASURES

		Effective Tax Rate	NII/ Operating Income	Operating Expenses/ Operating Income	NAIT/ Operating Income
Effective Tax Rate	Pearson Correlation				
	Sig. (2-tailed)				
	N				
NII/Operating Income	Pearson Correlation	.562			
	Sig. (2-tailed)	.189			
	N	7			
Operating Expenses/ Operating Income	Pearson Correlation	-.235	-.806(*)		
	Sig. (2-tailed)	.612	.029		
	N	7	7		
NAIT/Operating Income	Pearson Correlation	.169	.612	-.870(*)	
	Sig. (2-tailed)	.717	.144	.011	
	N	7	7	7	

\* Correlation is significant at the 0.05 level (2-tailed).

The correlations of all financial performance measures with each other, except for the tax rate range from -0.816 to 0.612, are thus relatively strong in either a positive or a negative direction. The results indicate that NII/Operating Income is negatively correlated with Operating Expenses/Operating Income. This finding makes sense, as there are not always increased expenses as a result of increased earnings in interest. An increase in the lending rate, for example, may increase income without having any impact on operating expenses. Non-interest revenue, however, is likely to result in higher expenses for the financial institution, as this is the category where the organisation needs to spend money in order to make money. Non-interest Revenue/Operating Income is likely to be positively correlated

with Operating Expenses/Operating Income. The results also indicate that NII/Operating Income is positively correlated with the Effective Tax Rate. This finding is, once again, logical because increase in income as a result of interest is unlikely to be accompanied by expenses, and thus the tax rate is likely to increase as the levels of income increase (there are no additional expenses to offset against taxes). NII/Operating Income is also positively correlated with NAIT/Operating Income, thus indicating that interest income is more profitable than non-interest revenue as it may not result in an increase in expenses. Table 5.6 further indicates a negative correlation between Operating Expenses/Operating Income and NAIT/Operating Income. This is due to the fact that as expenses increase, the operating profit of the organisation is likely to decrease.

## **5.6 DIFFERENCES BETWEEN DEPARTMENTS AS FAR AS ORGANISATIONAL CULTURE IS CONCERNED**

Table 5.7 provides a comparison of the different departments on each of the organisational culture dimensions.

Significant results (at the comparison wise significance level of 0.005) were found for two of the dimensions only, namely:

- empowerment, and
- capability development

TABLE 5.7  
COMPARING DEPARTMENTS ON ORGANISATIONAL CULTURE SUBDIMENSIONS

Divisions/Departments	Organisational Culture Dimensions											
	Empowerment	Team Orientation	Capability Development	Core Values	Agreement	Coordination and Integration		Change	Customer Focus	Organisational Learning	Strategic Direction and Objectives	
Treasury (n = 71)	3.07	3.10	3.14	3.22	3.12	2.89	3.03	3.13	3.06	2.97	3.10	2.84
Structured Finance												
(n= 31)	3.23	3.11	3.50	3.43	3.17	2.87	3.19	3.36	3.21	2.99	3.41	3.05
Capital Account/Intl												
Operations (n= 5)	3.40	3.00	3.44	3.52	3.12	3.28	3.08	3.44	2.96	3.64	3.60	3.20
Property (n = 42)	3.50	3.30	3.53	3.53	3.20	2.80	3.12	3.23	3.29	3.24	3.43	2.99
Corporate Finance												
(n=16)	3.39	3.30	3.28	3.26	3.08	2.66	2.88	3.44	2.93	2.79	3.19	2.65
Corporate Equities												
(n=6)	3.17	3.00	3.53	3.27	3.33	2.70	2.87	3.03	3.00	2.53	3.00	2.80
Multi-												
manager/Marketing												
(n= 22)	3.49	3.39	3.52	3.28	3.23	3.06	3.34	3.22	3.26	3.10	3.33	3.00
F-value	3.718	1.036	4.059	1.765	0.443	0.99	1.33	1.148	1.521	2.193	2.398	1.697
P-value	0.002	0.404	0.001	0.108	0.849	0.434	0.246	0.336	0.173	0.046	0.03	0.124
Partial Eta Squared	0.107	0.032	0.116	0.054	0.014	0.031	0.041	0.036	0.047	0.066	0.072	0.052

The partial eta-squared values of 0.107 and 0.116, respectively, indicate moderately large effect sizes; where 0.06 is moderate and 0.14 is large, according to criteria set by Cohen (1988), for these organisational culture dimensions.

Bonferroni post hoc tests were performed between the means of the seven departments on the subdimensions Empowerment and Capability Development. With regard to Empowerment, it was found that the Treasury Department scored significantly lower than the Property Department ( $p = 0.002$ ) (practical effect size correlation = 0.349) and the Multi-manager/ Marketing Department ( $p = 0.047$ ) (practical effect size correlation = 0.290)

With regard to Capability Development, it was found that the Treasury Department scored significantly lower than the Property Department ( $p = 0.002$ ) (practical effect size correlation = 0.358), the Multi-manager/Marketing Department ( $p = 0.050$ ) (practical effect size correlation = 0.302) and the Structural Finance Department ( $p = 0.018$ ) (practical effect size correlation = 0.293).

**TABLE 5.8**

**COMPARING DEPARTMENTS ON THE FOUR ORGANISATIONAL CULTURE TRAITS**

Divisions	Main Dimensions			
	Involvement	Consistency	Adaptability	Mission
Treasury	3.10	3.08	3.08	2.97
Structured Finance	3.29	3.14	3.25	3.10
Capital Account/Intl				
Operations	3.28	3.31	3.16	3.48
Property	3.44	3.18	3.21	3.23
Corporate Finance	3.32	3.00	3.08	2.88
Corporate Equities	3.23	3.10	2.97	2.78
Multi-manager/Marketing	3.47	3.19	3.27	3.15
F-value	3.099	0.597	1.039	1.887
P-value	0.006	0.733	0.402	0.085
Partial Eta Squared	0.090	0.019	0.032	0.057

Table 5.8 shows that the p-value of the F-test for the main dimension Involvement is 0.006, which is close to 0.005 (the comparison wise significance level of 0.005). The practical effect size of partial eta squared = 0.09 represents a larger than moderate size effect. When post hoc tests were performed, certain significant differences between departments were found. Bonferroni post hoc tests revealed that the Treasury Department scored significantly lower than the Property Department ( $p = 0.006$ ) (practical correlation effect size = 0.327) and the Multi-Manager/ Marketing Department ( $p = 0.04$ ) (practical correlation effect size = 0.295).

The results of this analysis correspond with the correlations of the subdimensions shown in table 5.7, whereby significant results were found for the Empowerment and Capability Development dimensions. These are two of the three dimensions that make up the involvement trait.

## **5.7 RELATIONSHIP BETWEEN FINANCIAL PERFORMANCE DATA AND ORGANISATIONAL CULTURE.**

The correlations of the financial performance data of the seven departments with their mean scores on the subdimensions of the Organizational Culture Survey are presented in table 5.9.

TABLE 5.9

**CORRELATIONS OF FINANCIAL PERFORMANCE DATA OF THE SEVEN  
DEPARTMENTS WITH THEIR MEAN SCORES ON THE SUBDIMENSIONS OF THE  
DENISON ORGANIZATIONAL CULTURE SURVEY**

			Operating		
			Effective	NII/Operating Expenses/Operating	NAIT/Operating
			Tax Rate	Income	Income
				Income	Income
Empowerment	Pearson Correlation	0.31	-0.41	0.46	-0.45
	Sig. (2-tailed)	0.501	0.363	0.295	0.317
Team Orientation	Pearson Correlation	0.09	-0.49	0.85	-0.89
	Sig. (2-tailed)	0.853	0.267	0.016	0.007
Capability	Pearson Correlation	0.40	0.33	-0.37	0.13
Development	Sig. (2-tailed)	0.369	0.472	0.416	0.779
Core Values	Pearson Correlation	0.60	0.15	-0.25	0.46
	Sig. (2-tailed)	0.157	0.755	0.596	0.300
Agreement	Pearson Correlation	0.26	0.71	-0.59	0.18
	Sig. (2-tailed)	0.575	0.076	0.161	0.704
Coordination and	Pearson Correlation	-0.37	-0.27	-0.08	0.37
Integration	Sig. (2-tailed)	0.419	0.562	0.867	0.419
Creating Change	Pearson Correlation	-0.14	-0.21	0.28	-0.13
	Sig. (2-tailed)	0.768	0.649	0.549	0.786
Customer Focus	Pearson Correlation	-0.12	-0.74	0.44	-0.14
	Sig. (2-tailed)	0.794	0.055	0.323	0.764
Organisational	Pearson Correlation	0.36	0.20	0.17	-0.17
Learning	Sig. (2-tailed)	0.432	0.660	0.719	0.709
Strategic Direction	Pearson Correlation	0.07	-0.26	0.07	0.31
and Intent	Sig. (2-tailed)	0.874	0.580	0.879	0.495
Goals and	Pearson Correlation	0.17	-0.30	0.10	0.22
Objectives	Sig. (2-tailed)	0.714	0.513	0.837	0.633
Vision	Pearson Correlation	0.06	0.06	-0.30	0.54
	Sig. (2-tailed)	0.901	0.895	0.513	0.206

The correlation between Team Orientation and Operating Expenses/Operating Income is 0.85. This means that the higher a department's team orientation score, the higher its expenses are relative to its income. In other words, high team orientation appears to be bad

for performance. In addition to this, Team Orientation was found to have a negative correlation of  $-0.89$  with NAIT/Operating Income. This, once again, implies that team orientation is bad for profitability in this particular environment. This could imply that it is better to focus on individual performance in this particular organisation, as individual performance may be more likely to drive financial performance. The Core Values dimension was positively correlated with the Effective Tax Rate ( $0.60$ ), thus implying that the higher the score on core values, the higher the effective tax rate. The ideal is for the effective tax rate to be as low as possible and thus this finding is not desirable. However, the significance level related to this particular finding is very low ( $0.157$ ), thus indicating that this finding is not statistically significant.

With regards to the Agreement dimension, a positive correlation of  $0.71$  was found with NII/Operating Income. This implies that the higher the agreement dimension, the higher the levels of interest income as a percentage of total income. A negative correlation of  $-0.59$  was also found between Agreement and Operating Expenses/Operating Income, although the level of significance was fairly low ( $p=0.161$ ). Although the significance was low, this finding corresponds with the earlier correlations of financial performance measures in section 5.1 and highlights the fact that there are fewer expenses associated with an increase in revenue due to interest earnings.

There is a negative correlation of  $0.74$  ( $p=0.055$ ) between the Customer Focus dimension and NII/Operating Income. This implies that the greater the customer focus, the lower the percentage of interest income as a portion of total income. This finding makes sense, as an increase in interest rates is likely to upset customers. Employees, in turn, do not have to focus strongly on customer service if the strategy of the organisation is to generate revenue through interest expenses. This is due to the fact that very little front-line client interaction is required in order to generate revenue through this means.

Vision has a positive correlation of  $0.54$  with NAIT/Operating Income, thus indicating that the higher the scores on visions, the more profitable the organisation.

**TABLE 5.10**  
**CORRELATIONS OF FINANCIAL PERFORMANCE DATA OF THE SEVEN**  
**DEPARTMENTS WITH THEIR MEAN SCORES ON THE FOUR MAJOR**  
**ORGANISATIONAL CULTURE TRAITS**

		Effective Tax Rate	NII/ Operating Income	Operating Expenses/ Operating Income	NAIT/ Operating Income
<b>Involvement</b>	Pearson Correlation	0.31	-0.41	0.46	-0.45
	Sig. (2-tailed)	0.501	0.363	0.295	0.317
<b>Consistency</b>	Pearson Correlation	0.09	-0.49	0.85	-0.89
	Sig. (2-tailed)	0.853	0.267	0.016	0.007
<b>Adaptability</b>	Pearson Correlation	0.4	0.33	-0.37	0.13
	Sig. (2-tailed)	0.369	0.472	0.416	0.779
<b>Mission</b>	Pearson Correlation	0.6	0.15	-0.25	0.46
	Sig. (2-tailed)	0.157	0.755	0.596	0.3

Table 5.10 indicates that correlations with the Consistency dimension are worth exploring. A positive correlation of 0.85 ( $p=0.016$ ) was found between Consistency and Operating Expenses/Operating Income. This implies that as the score on the consistency dimension increases, the expenses of the organisation will increase relative to the income. This could be an indication that in order for people to share a common set of values and to work together effectively, money should be spent on people management activities and thus expenses would increase. A negative correlation of 0.89 ( $p=0.007$ ) was found between Consistency and NAIT/Operating Income, thus indicating that profitability is likely to decrease as consistency increases. This can possibly be attributed to the increase in expenses associated with consistency described above.

The null hypothesis could thus not be rejected, as correlations were found between certain financial performance measures and organisational culture traits. These results should, however, be interpreted with caution due to the fact that no large differences on the mean scores were found between departments on the consistency dimension. However, due to the fact that the organisation concerned is an investment bank, erratic market changes may have had a significant impact on profitability ratios and could thus have influenced the

correlations. This research should ideally be longitudinal in nature and should track financial performance and organisational culture over a number of years in order to yield accurate data.

## 5.8 SUMMARY OF STATISTICAL RESULTS

The statistical analyses indicate that all major traits have acceptable internal consistency reliabilities and that most scales have acceptable reliabilities, except for the capability development and agreement scales. The goodness of fit statistics indicate that the model fits the data and that it is thus valid. High correlations between the cultural traits is, however, of concern, as it indicates that the traits may not be separable.

Certain correlations were found between the financial performance data, indicating that certain financial measures relate to each other either positively or inversely. This confirmed the internal validity of these measures.

The comparison of the different departments on each of the organisational culture dimensions revealed significant results for the empowerment and capability development dimensions only. These are two subscales of the involvement trait, which was found to be the only cultural trait where significant differences were found between departments.

The results generated from the analysis between the organisational culture dimensions and the financial measures were disappointing. Very few financial measures could be shown to be strongly correlated with cultural traits or subdimensions. Correlations between the cultural dimensions of team orientation, agreement, customer focus and vision were found with certain financial measures. Although these correlations were above the 0.50 level, the levels of significance were not sufficient in all cases to make conclusions with confidence. The only cultural trait that was found to be correlated with financial measures was the consistency trait.

The results should be viewed within the context of the sample size and the fact that the study was conducted within a single organisation. The industry in which the organisation operates

can undergo erratic changes and thus financial data should be viewed over a number of years, along with the cultural data.

## **5.9 CHAPTER SUMMARY**

The purpose of this chapter was to present the results of the empirical study. This chapter began with a description of the biographic profile of the sample and then presented the overall results of the organisational culture profile. The differences in the organisational culture results between departments were then explored. The findings of the validity and reliability analyses of the Denison Organizational Culture Survey were then presented and discussed. This was followed by the presentation of the financial performance data and the examination of the relationship between organisational culture and financial performance. This chapter concluded with a summary of the statistical findings.

## **CHAPTER 6**

### **CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

The aim of this chapter is to focus on steps 7 to 9 of the empirical investigation, as described in chapter 1. The conclusions of this research will be formulated on the basis of the literature review and the results of the empirical research. The shortcomings will then be discussed in the context of the conclusions of this research and recommendations for further research will be given.

#### **6.1 CONCLUSIONS**

Conclusions will be drawn about the literature review and the empirical research in accordance with the aims of the research.

##### **6.1.1 Conclusions Regarding the Literature Review**

Conclusions will be drawn about organisational culture and financial performance with specific reference to the contextual framework of the research and the literature reviewed.

###### **6.1.1.1 *First Aim***

The first aim, namely to conceptualise organisational culture and to determine its key aspects, was achieved in chapter 2 (refer to 2.2 and 2.3). The conclusion can be made that the conceptualisation of organisational culture is not an easy task due to the fact that there is no single generally accepted definition of or theory on the concept. However, there are certain key characteristics of culture that seem to be generally accepted by researchers:

- It is a collective phenomenon shared by members of a group and is socially constructed.

- It deals predominantly with intangible and emotional concepts (such as meanings, values, understanding and beliefs) rather than rational concepts.
- It is historically determined and is difficult to change.
- It provides a group with identity, a sense of meaning, purpose and direction, and involves the establishment of a set of norms that shape the behaviour of individuals within that group.

With regard to the aspects of culture, the various types and dimension of culture were explored and four key types of cultures were identified. These cultures are the role culture which focuses on defined jobs, rules and procedures; the task culture which focuses on project groups; the power culture which focuses on the influence of a central leader figure and the extent to which control is shared; and the person culture (individualism versus collectivism) which focuses on the extent to which individuals are integrated into groups. In addition to this, several dimensions seem to commonly emerge when studying organisational culture. These dimensions involve the extent to which organisations focus on long-term versus short-term planning, the extent to which people are motivated in the organisation, the propensity that people have towards stability as opposed to flexibility, the extent to which people are willing to work together and cooperate, and the organisation's relationship with the external environment.

Furthermore, the organisational culture models of Schein (1985); Denison (1990); Hofstede et al (1990); and Kotter and Heskett (1992) were explored as key aspects of culture. The conclusion can be made that all of the models distinguish between different levels of culture, namely the invisible and often unconscious elements of culture and the visible elements that can often be observed in behaviours and management practices. The role that culture plays within an organisation was explored and it can be concluded that culture has a significant influence on the extent to which there is internal integration (the ways in which people work together in order to adapt to the external environment and remain competitive). The review of the literature also highlighted that organisational culture is a dynamic concept, which can be difficult to change if the culture is strong. However, a flexible culture that is relatively open to risk taking is more likely to change within a shorter timeframe. In order to facilitate the change of organisational culture, the organisational members should be able to see the

advantages of the change to their long-term survival. It can thus be concluded that changing an organisation's culture is possible, but is not a simple process and requires buy-in from the organisational members.

#### 6.1.1.2 *Second Aim*

The second aim, namely to determine how organisational culture can be measured, was achieved in chapter 2 (refer to 2.4). It can be concluded that there are two key techniques for measuring organisational culture, namely qualitative and quantitative techniques. The use of qualitative methods is more likely to reveal the components of culture that exist at the unconscious and preconscious levels, such as basic assumptions. However, qualitative methods do not allow for systematic comparisons between departments and the analysis of subcultures within the organisation. Quantitative methods, on the other hand, can be used when researchers want to explore the more conscious elements of culture, such as values, behavioural norms and artifacts. Quantitative methods also allow for the systematic comparison of culture within the organisation and between different groups of people. It was concluded that in order to achieve the aims of this research, quantitative techniques had to be used in order to allow for the analysis of systematic comparisons.

#### 6.1.1.3 *Third Aim*

The third aim, namely to conceptualise financial performance and determine its key aspects, was achieved in chapter 3 (refer to 3.2 and 3.3). It can be concluded that if an organisation is to survive in the long run, sound financial management is required. Financial management involves the management and movement of money and focuses on the measurement of economic transactions. This measurement is reflected in the financial statements of the organisation, which can be used to assess whether the organisation is achieving its short-term and long-term goals. The following additional conclusions can be made about the conceptualisation of financial performance:

- The objective of the owners of an organisation is to generate profit and to maximise the shareholders' wealth. In public companies, this wealth is determined by the share

price on the stock exchange. However, owners are often willing to sacrifice short-term profitability in exchange for long-term wealth creation.

- It is critical for financial managers to make the right decisions based on the organisation's overall strategy, taking timing and the preferred approach to risk into account. The strategy should thus influence the decisions taken with regard to the investment of excess funds, the payment of dividends and, if required, the sourcing of additional funds.
- An organisation that practices sound financial management should be able to satisfy its short-term obligations as they become due, and should own more than it owes.

The review of the aspects of financial performance revealed that several fundamental principles should be considered when determining the effectiveness of the financial decisions of any company. These include an assessment as to whether the benefits of an investment are greater than the costs of the investment, whether the money could generate higher returns if invested elsewhere, and the level of risk required in relation to the return anticipated. In addition, it is necessary for organisations to account for the effects of their business decisions in order to review past performance and to guide future decisions. This accounting information is summarised in the financial statements of the organisation. The following conclusions can be made regarding the financial performance of an organisation in relation to its financial statements:

- If revenue exceeds expenses in the income statement and profits are shown, the organisation is performing well. However, this does not mean that the organisation has cash readily available to spend.
- The balance sheet shows all the assets owned by the organisation and the claims against those assets, but does not show the real value of the business at all times. It provides an indication as to whether the financial decisions taken, are in line with the strategy by showing how the assets have been financed.
- The cash flow statement provides an indication of the cash received and payments made, but does not show outstanding obligations by either debtors or creditors. This

statement will show the organisation's ability to meet short-term obligations, but provides no indication of the long-term financial health of the organisation.

- The equity statement shows the shareholders' equity or the owners' claims against the organisation. The total shareholders' equity should be relatively high in order to attract future investors in the organisation.

#### 6.1.1.4 6.1.1.4 *Fourth Aim*

The fourth aim, namely to determine how financial performance can be measured, was achieved in chapter 3 (refer to 3.4). The conclusion was made that when analysing financial statements in order to measure the financial performance of the organisation, one of four key techniques can be used:

- Ratio analysis involves the comparison of one item in the accounts to another, and provides an indication of the movement of an actual business process. Ratios help the organisation to assess its performance against targets, past performance and industry benchmarks. There are four key groups of ratios, namely those that are used to assess the profitability of an organisation, those that are used to assess the solvency of the organisation, those that are used to measure the speed with which various accounts are converted into cash, and those that measure how the use of debt affects the organisation's ability to repay its obligations in the long term.
- Comparative financial statements and trend analysis involves the comparison of financial statements over a number of years and the identification of trends that have emerged over time.
- Common size statements analysis reveals trends by comparing percentages of change over time, or percentages of components at one point in time.
- Funds flow analysis measures the actual cash inflows and outflows of the business, and thus provides an indication of the true cash position of the organisation.

It was further concluded that the measurement technique most appropriate for this research was ratio analysis, due to the fact that ratios are generally accepted by shareholders and analysts as acceptable measures of financial performance and the fact that current financial information was readily available.

#### *6.1.1.5 Fifth Aim*

The fifth aim, namely to integrate the concepts of organisational culture and financial performance, was achieved at the end of chapter 3. The conclusion was made that several studies have been conducted to establish the link between organisational culture and financial performance; however, the performance measures used varied from study to study. Peters and Waterman (1982); Denison (1990); Hansen and Wenerfelt (1989); Calori and Sarnin (1991), and Van der Post et al (1998) all conducted studies involving the relationship between certain financial ratios and organisational culture. Their studies revealed relationships between certain cultural dimensions and financial ratios, particularly return on assets, return on investment, return on sales and market share. It can be concluded that dimensions of culture that were consistently found to be related to financial performance are consistency, adaptability, participation/empowerment, strategic direction and entrepreneurship. Kotter and Heskett (1992) conducted four studies examining the relationship between organisational culture and financial performance, and found that culture can have a significant influence on long-term financial performance and should thus be enhanced continuously.

### **6.1.2 Conclusions Regarding the Empirical Study**

Conclusions will be drawn about organisational culture and financial performance with specific reference to the results of the empirical investigation that was conducted.

#### *6.1.2.1 First Aim*

The first aim, namely to investigate the organisational culture in a South African investment banking organisation, was achieved in chapter 5. The Denison Organizational Culture

Survey was used in order to gather information on the culture profile of the organisation concerned and the results of the survey were presented in chapter 5 (refer to figure 5.5). All the results were in the first and second quartiles when comparing the organisation's profile to a norm group of other participating organisations. This tends to indicate that the organisation had to make a considerable effort to improve its culture profile if it wanted to achieve sustained financial performance in the long term. The validity and reliability of the Denison Organizational Culture Survey was presented and it was determined that most of the scales had an acceptable internal consistency reliability and that the model fitted the data. A concern did, however, emerge regarding the high correlations between the four cultural traits, thus suggesting that they are not clearly distinguishable. The differences in the organisational culture subdimensions between departments were explored in section 5.6.

#### 6.1.2.2 *Second Aim*

The second aim, namely to investigate the financial data of a South African investment banking organisation, was achieved in chapter 5 (refer to table 5.4). The ratios selected for this research were obtained from the mean of the March 2001 and March 2002 financial statements, and were presented for each income generating department. Correlations between these financial performance measures were explored in table 5.6.

#### 6.1.2.3 *Third Aim*

The third aim, namely to investigate whether a relationship exists between the organisational culture profile and the financial performance of a South African investment banking organisation, was achieved in chapter 5. Although very few of the financial ratios selected could be shown to be correlated with cultural traits or subdimensions, the following conclusions can be drawn from the analysis:

- A high team orientation is negatively correlated with profitability in the organisation studied, thus indicating that individual performance was more important than team performance within the context of this organisation.

- The higher the levels of agreement in the organisation, the more likely earnings can be attributed to interest income, as opposed to other forms of income.
- The greater the customer focus in the organisation, the less likely earnings can be attributed to interest income. If the organisation is focusing outwardly on its customers, it will be more likely to generate income through non-interest sources.
- The higher the scores obtained on the vision dimension, the higher the profitability of the organisation.
- The higher the score on the consistency trait, the higher the expenses relative to income and thus the lower the profitability of the organisation.

#### 6.1.2.4 *Fourth Aim*

The fourth aim, namely to formulate recommendations for Industrial Psychology and further research based on the findings of this research, will be discussed in section 6.3.

## 6.2 LIMITATIONS OF THE RESEARCH

The limitations for the literature study and the empirical investigation are outlined below.

### 6.2.1 Limitations of the Literature Review

With regard to the literature review, the following limitations were encountered:

- There is no generally accepted definition of organisational culture, and there appears to be little agreement on what the concept means and how it should be observed or measured.
- There are a wide variety of organisational culture models, each with its own set of cultural traits and subdimensions.

- There are very few valid and reliable instruments available to measure organisational culture.
- The research on the relationship between organisational culture and financial performance seldom makes use of the same culture model and the same financial performance measures. It thus becomes difficult to compare results from one study with the next.
- It is difficult to find published information on the financial ratios selected for this study. The literature sources tend to present generic ratios and it is difficult to source information on ratios specific to the investment banking industry. Many of the definitions and descriptions had to be obtained through personal communications with financial experts, as well as through internet sources.

## **6.2.2 Limitations of the Empirical Investigation**

The limitations encountered in the empirical investigation are outlined below:

### *6.2.2.1 Sample*

The research was conducted within a single organisation and thus the results cannot be generalised to the broader population of all investment banks. In addition to this, the original sample had to be split up further and only the results of income generating departments were considered, thus the sample size was relatively small. Due to the fact that the study was conducted in a single organisation and the means of comparison were the departments within the organisation, financial measures at an organisational level could not be used. Instead, financial measures that could be explored at a departmental level had to be used. Thus, direct comparisons could not be drawn between the findings of the Denison (1990) research and the findings of this research. Most findings presented in the literature study were also conducted using organisational level financial performance measures and could, thus, not be compared directly with the results of this research.

When looking at the biographical make-up of the sample, the vast majority of respondents were white. Although this was representative of the demographics of the organisation in question, it has an impact on the generalisability of the results (particularly the validity findings) to the broader South African population.

#### *6.2.2.2 Limitations of the Denison Organizational Culture Survey*

The Denison Organisational Culture Questionnaire is an instrument that has been designed and validated in the American context. No data currently exists for the validation of the instrument in the South African context and this is the first research paper to present such results. A second limitation is that the norm group used for comparison purposes was based on the results of American and other international organisations, with no South African companies represented in the benchmark group. This could mean that the standards set for comparison purposes were too high and that the results obtained within the first and second quartiles should be viewed within this context.

A second limitation in using the Denison Organizational Culture Survey, or any other survey instrument, is the fact that it only measures the more observable elements of culture, and thus does not tap into the unconscious elements of culture and how they could relate to financial performance.

A third limitation in using the Denison Organizational Culture Survey is that the correlation between the four cultural traits was found to be very high in this study, as well as previous studies, thus indicating that the items may in fact be measuring a single trait instead of four clearly distinguishable cultural traits.

#### *6.2.2.3 Use of Current Financial and Organisational Culture Information*

Information on the culture profile of the organisation was only available at a single point in time and this presents a limitation for this study, as it would be useful to track the relationship between organisational culture and financial performance over a number of

years in order to make informed conclusions. The fact that the independent variable could not be manipulated in this study presents a further limitation as the influence of intervening variables on the results is hard to rule out.

In addition to this, the financial markets in March 2002 were relatively erratic and thus the financial data used may skew the results of the study. An attempt was made to counter this limitation by using the mean of financial performance data over a two-year period. A third limitation is the fact that the financial performance measures selected are specific to the investment banking industry and, while they can be deemed to be important for other banking organisations, these measures cannot be generalised to be important for the broader population of organisations in different industries.

### **6.3 RECOMMENDATIONS**

Against the background of the aforementioned conclusions and limitations, recommendations for Industrial Psychology and further research in the field are outlined below.

#### **6.3.1 Recommendations for Industrial Psychologists when working in the field of organisational culture**

The conclusions of the research tend to indicate that practitioners should view organisational culture within the context of the business strategy of the particular organisation in which they are working, and should take cognizance of the fact that organisational culture may have an impact on the financial performance of the organisation. However, they should be cautioned that higher scores on culture dimensions will not always result in better financial performance and may in fact have a negative correlation. Understanding the business operations is critical when becoming involved in culture change interventions.

In addition, practitioners have a role to play in assisting line managers to understand how practices within the organisation can have an impact on their bottom line and that it thus becomes a business imperative to ensure that the organisational culture is aligned to the

business strategy. In order to be able to do this, it is critical for practitioners to begin to understand financial terminology and the use of financial ratios in assessing and interpreting financial performance. Practitioners can gain an extensive amount of credibility and buy-in if they are able to clearly communicate the broader impact of culture on organisational survival.

### **6.3.2 Recommendations for Further Research**

In an attempt to address the limitations of this research discussed in the previous section, it is recommended that a longitudinal study on the relationship between organisational culture and financial performance be conducted within the South African context. It is also recommended that the financial performance measures and organisational culture profiles be studied over a minimum period of five years. In addition to this, it is recommended that in order to achieve true value from the research, a number of organisations across industries should be selected to participate in the research. Moving the sample base from a single organisation to multiple organisations will also mean that organisation-level financial performance measures can be selected, such as return on investment, return on equity and return on assets. These measures are not only of key importance across all organisations and industries, but can also provide a direct comparison with the research findings of Denison (1990) conducted in the United States of America. It would also add value to explore the concept of a strong organisational culture to determine whether it is always preferable to obtain high scores on all culture dimensions when attempting to attain high levels of financial performance.

A second recommendation for further research is the validation of the Denison Organizational Culture Survey within the South African context, ensuring a multicultural sample of participants. Particular attention should be paid to the correlation of the four cultural traits and the extent to which the subdimensions and items fit the model within the broader sample of South African organisations. An item analysis should be conducted to determine whether any specific questions in the survey should be reformulated.

The third recommendation stems from the literature review and the various studies attempting to establish a link between organisational culture and financial performance, all

using different instruments. It is recommended that a study be conducted using more than one validated organisational culture instrument with similar dimensions to determine whether the similar dimensions in the different questionnaires are correlated in the same direction to certain financial performance measures.

The fourth recommendation relates to the conclusions of this research and is that further studies should be conducted to explore the relationship between team orientation and profitability, and between consistency and profitability, in the investment banking industry. Furthermore, additional research is required on the relationship between vision and profitability in organisations.

## **6.4 INTEGRATION OF THE RESEARCH**

This dissertation focuses on the relationship between organisational culture and financial performance. The changing competitive environment within which South African financial services organisations have been forced to operate over the past few years, has forced many organisations to restructure, merge or reengineer in order to remain competitive and to generate sustainable financial results. Several studies have been undertaken to discover how this sustained financial performance can be achieved. These studies discovered that organisational culture seems to create a unifying force that boosts organisational performance and that it affects both employee behaviour and the financial performance of the organisation (Calori & Sarnin, 1991; Denison, 1990; Kotter & Heskett, 1992; Peters & Waterman, 1982; Tidball, 1988; Van der Post et al, 1998).

Industrial psychologists' approach of analysing or enhancing the organisational culture in order to improve the work environment should thus shift towards analysing and changing culture in order to ensure the survival of the organisation in the ever-changing competitive marketplace. There should be a strong emphasis on the link between an organisation's culture and its long-term financial performance, and the contribution that culture can make to achieving the desired financial results and, ultimately, the organisational strategy. The emphasis of culture thus changes from something that is nice to focus on if the organisation has the time and money, to something that is a business imperative.

The research aim was to determine whether there is a relationship between organisational culture and financial performance in a South African investment banking organisation. The findings of the empirical research were presented in chapter 5 and the conclusions related to each of the specific aims of both the literature and the empirical studies were discussed in this chapter.

In conclusion, the research has provided a glimpse into the nature of the relationship between organisational culture and financial performance of a small sample of departments within a South African investment banking organisation. The set of data was unfortunately too small to draw significant conclusions in support of the research hypothesis and there were several limitations to this study, including the sample size, the limitations surrounding the use of the Denison Organizational Culture Survey, the financial measures selected and the fact that the research was not longitudinal in nature. However, the relationships that were revealed may provide additional insight into discovering the connection between organisational culture and financial performance on a broader level. Recommendations have been made for further research and this should thus be seen as the beginning of a stream of research which could generate very rewarding results.

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