EVALUATING THE ORGANISATIONAL CULTURE THAT EXISTS WITHIN THE SCHOOL OF PROCESS AND MECHANICAL ENGINEERING AT TECHNIKON WITWATERSRAND

By

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25 July 2003

CONFIDENTIALITY CLAUSE

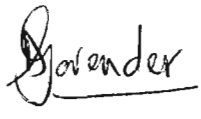
25 July 2003

TO WHOM IT MAY CONCERN

RE: CONFIDENTIALITY CLAUSE

Due to the sensitivity of this research, it would be appreciated if the contents remain confidential and not be circulated for a period of five years.

Sincerely



D. Govender

DECLARATION

This research has not been previously submitted for any degree and is not being submitted in candidature for any degree

Signed…Davender……

Date: 25 July 2003

ACKNOWLEDGEMENTS

The undertaking of this MBA study was a long journey on which many sacrifices had to be made. I hereby express my sincere thanks and appreciation to the following people:

- To my parents, wife and family for their consideration, continued support, encouragement and tolerance throughout my studies,
- To my friends, for bearing with me whilst my studies took priority
- To the staff of the School of Process and Mechanical Engineering for participating in this study and
- To Professor D.A.L. Coldwell for supervising this project.

ABSTRACT

The problems existing at the School of Process and Mechanical Engineering may be linked to that fact that its organisational culture has not been diagnosed. Some of the issues facing the line managers at the School of Process and Mechanical Engineering are the low morale of staff; high staff turnover rates and tension within the School of Process and Mechanical Engineering. In addition, with the proposed merger between TWR, Rand Afrikaans University and Vista University, the current culture may need to change. Hence, the core focus of this study was to identify the existing organisational culture within the School of Process and Mechanical Engineering with a view to assist line managers in enhancing its effectiveness.

The Competing Values Framework, together with the Organisational Culture Assessment Instrument (OCAI), was used to diagnose the culture within the School of Process and Mechanical Engineering.

It was found that within the School of Process and Mechanical Engineering at present, the dominant culture is the hierarchy type culture and the preferred dominant culture should be the market type culture. The hierarchy type culture focuses on internal maintenance with a need for stability and control whilst the market type culture has an external focus with a need for stability and control. It was recommended that the School of Process and Mechanical Engineering change its current hierarchy culture towards the market type culture. The study was concluded by providing recommendations in order to facilitate a smooth transition from a hierarchy type culture to a market type culture.

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CHAPTER ONE

1.1 Introduction

As we look forward, the one thing that is certain is that nothing is constant. The world today is filled with uncertainty and evolution, and in the business environment one needs to be equipped with the best of tools to deal with this uncertainty. This should lead to employing the best practices within the organisation

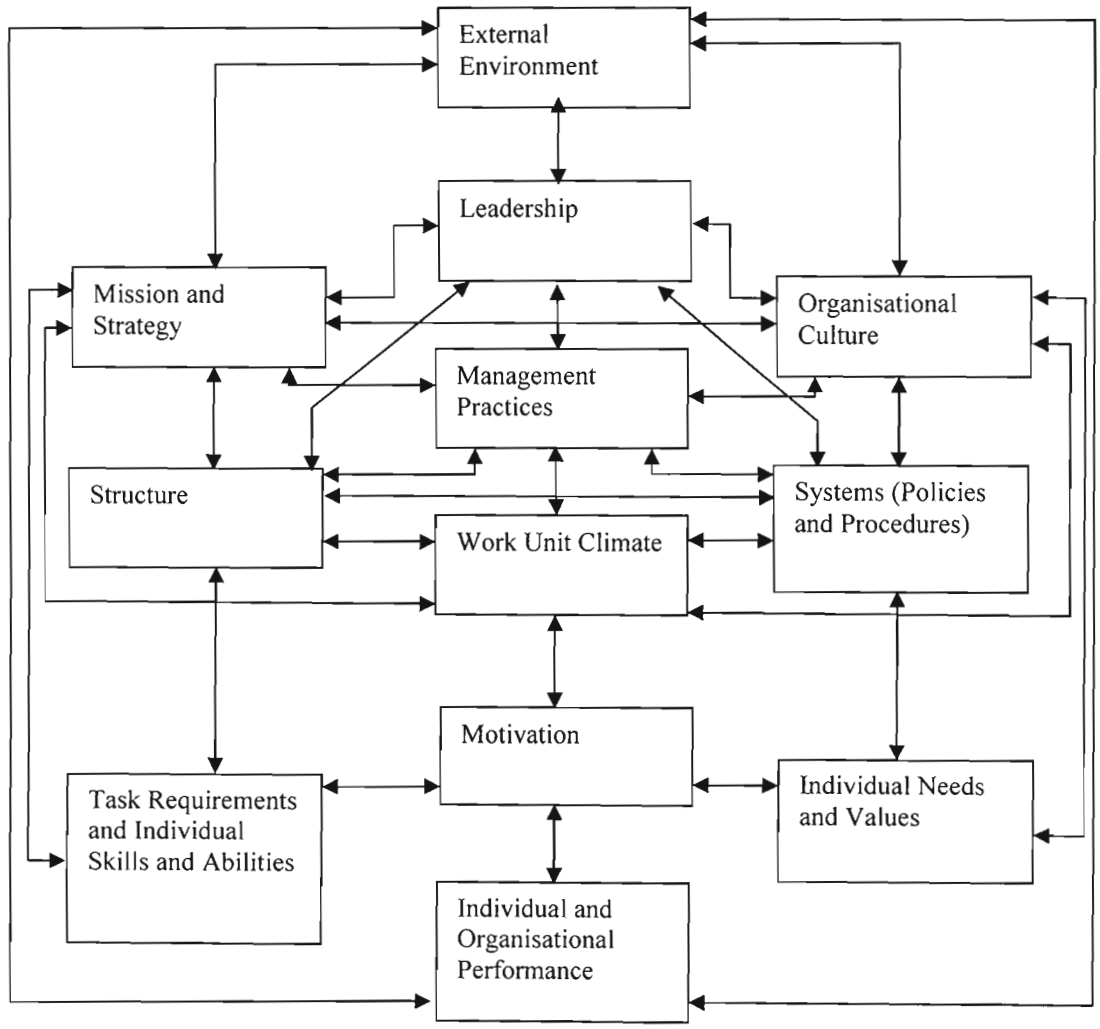


Figure 1: Burke-Litwin Model (Louis, 2001)

In order to assess the organisation's well-being, the Burke-Litwin Model for Organisational Assessment (Figure 1) may be utilized. From Figure 1,

it is clear that an organisation's culture impacts directly on the external environment, leadership, mission and strategy, management practices, work unit climate and systems. Hence, an understanding and assessment of the culture of an organisation can mean the difference between failure and success. According to Mohan (1993), strategic changes can only take place successfully if organisational culture provides the support. The organisational elements that are vital to the successful implementation of a company's strategy are leadership, remuneration structures based on performance, systems, organisational structure and culture (Pierce and Robinson, 1997). Flanagan (1995) states that "Corporate culture. It's always been there, but businesses never paid much attention to it...until now, that is. With reengineering, downsizing, acquisitions and a host of outside pressures wreaking havoc on businesses, many managers are taking a closer look at the inner workings of their organisations – their values, their beliefs, their priorities- to see if they still make sense in the new business environment".

Culture is a complex factor that all businesses face. In defining organisational culture there is no consensus and as early as 1952, Kroeber and Kluckhohn reported 156 definitions of culture (Seel, R., 2000). Just as individuals have a personality, so to does an organisation have a personality, which is termed the organisation's culture.

Simplistically, organisational culture refers to a system of shared meaning within an organisation that determines to a large degree how employees act (Robbins, 2001).

1.2 Background

Technikons, as technological higher education institutions providing career and technology education in cooperation with private and public sectors, make an important contribution by addressing the needs of the South African economy by supplying human capital. The practical hands on approach to education and training address the commercial and industrial needs.

Technikon Witwatersrand (TWR) originated from the Transvaal Technical Institute, which later developed into University of Witwatersrand, Pretoria University and Witwatersrand Technical Institute, was established in 1903. The Witwatersrand Technical Institute later developed into TWR. TWR is situated in the heart of economic capital of South Africa, Gauteng. TWR consists of three campuses: Doornfontein, Eloff Street and Auckland Park. As part of its re-structuring towards greater efficiency, its academic programmes were divided into four faculties:

- Art, Design and Architecture
- Business Management
- Engineering
- Health Sciences

The Technikon Witwatersrand adheres to the following values —
cohesion – to support common endeavour, and at all times to strive to build cohesiveness and unity throughout the Technikon Witwatersrand — above all, unity in action;

innovation – to commit itself to continuous improvement and to remain sensitive to the need for constant monitoring of activities in order to ensure progress in all fields;

integrity – to be completely sincere, ethical, accountable, open and transparent in pursuing its goals and adhering to its norms and standards (http://www.twr.ac.za, 2002).

The Faculty of Engineering is divided into five Schools: Applied Sciences, Built Environment, Electrical and Computer Systems Engineering, Process and Mechanical Engineering, and Mining Engineering. The Faculty of Engineering aims to supply the South African economy with technicians and technologists that would be able to improve the productivity of the manufacturing and processing economy.

The School of Process and Mechanical Engineering consists of three departments: Chemical Engineering, Industrial Engineering, and Mechanical Engineering with a staff complement which comprises of 40 academic individuals and 12 non academic individuals.

1.3. Problem Statement

1.3.1 Background to Problem Statement

The major purposes of organisational surveys (Kraut, 1996) are:

- to pinpoint areas of concern,
- to perform organisational behaviour research,
- to assist organisational change and improvement , and
- to provide symbolic communication.

According to the Burke-Litwin Model (Kraut, 1996) it can be seen that culture impacts on transformational issues such as leadership, management practices, work unit climate and the external environment. A study conducted by Gous M. researched the role of organisational culture in higher education leadership and management (Gous, 2002). Gous

identified eleven dimensions of culture that was most applicable to TWR viz.

- shared vision (commitment);
- mutual trust and respect;
- opinions of staff valued, participation in decision making;
- leadership;
- systems thinking, shared responsibility;
- working as a team;
- recognition, reward;
- effective communication;
- information shared, feedback, quality improvement;
- risk taking, sufficient challenge, creativity; and
- professional development, empowerment.

The problem existing within the School of Process and Mechanical Engineering is that the organisational culture has not been diagnosed in terms of assisting line managers to address the issues below.

The School of Process and Mechanical Engineering faces the following issues:

- A high staff turnover rate
- Low morale
- Tension amongst staff members

In order to understand the occurrence of the above issues, the School of Process and Mechanical Engineering needs to assess its culture. As a secondary objective, given the restructuring of the education system involving the merger between TWR, Rand Afrikaans University and

Vista University, the possibility of a new culture emerging exists. This study would further attempt to identify the preferred culture that should exist.

1.3.2 Problem Statement

To identify the organisational culture that exists within the School of Process and Mechanical Engineering with a view to assist line managers in enhancing its effectiveness.

1.4 Research Objectives

- To understand the concept of organisational culture.
- To review existing models available for assessing organisational culture
- To determine the organisational culture of the School of Process and Mechanical Engineering
- To provide feedback to line management regarding the current and preferred organisational culture.

1.5 The Research Design and Methodology

This research was descriptive in nature and the collection of data was accomplished using a questionnaire. A quantitative approach was followed as this study focused on assessing the current and preferred organisational culture within the School of Process and Mechanical Engineering.

1.5.1 Research Group

The population for this study consisted of all academic and non academic staff working for the School of Process and Mechanical Engineering. At present the academic and non-academic staff complement is 52

individuals. Given the small population, a census study was conducted, in that the sample group consisted of the entire population. This eliminated any problems that can be associated with sampling.

1.5.2 Method of Data collection

The questionnaires were distributed electronically via e-mail thereby minimising distribution time. This allowed respondents to complete the questionnaire electronically and hence facilitated faster processing of the data.

1.5.3 Data Analysis

The questionnaire uses a response scale in which respondents divide 100 points amongst the four alternatives. This is known as an ipsative scale (also know as a fixed sum scale). The advantage is that this scale provides a 100-point scale for rating as compared to the 7-point Likert scale. The second advantage is that it forces respondents to identify trade-offs that exist in the School of Process and Mechanical Engineering. However ipsative scales do not produce independent responses and hence normal correlation statistical analysis which are based on the assumption of independent responses on each item are not usually appropriate for this kind of data (Cameron and Quinn, 1999). The average of each alternative A, B, C, and D will be calculated. These averages will then be used to plot the current and preferred cultural profiles of the School of Process and Mechanical Engineering.

1.6. Limitations of the Research

- This research is only limited to the School of Process and Mechanical Engineering and hence its findings cannot be generalised.

- A further limitation may be researcher bias as the researcher is currently employed at TWR in the School of Process and Mechanical Engineering.

- The use of the questionnaire approach generates quantitative data and as such excludes information regarding artefacts such as details of stories, myths and rituals.

- This study has not been initiated by management which could adversely affect the response rate.

1.7. Benefits of the Study

The major benefit of this study would be to obtain an assessment of the organisational culture that exists with the research group and assist the line managers to enhance its effectiveness. In addition, this study attempts to identify the preferred culture. In the event that the current and the preferred culture do differ, this study could act as the catalyst to change the current culture towards the preferred organisational culture.

1.8 Summary

This study aims to evaluate the present culture of the School of Process and Mechanical Engineering using an appropriate model/framework. The importance of determining the organisational culture of the School of Process and Mechanical Engineering is to ensure that it may survive in the current times of change and to assist it in resolving some of its internal dilemmas. The research objective, research design, and methodology were described. The limitations of this study were stated. This chapter was concluded with the benefits of this study.

CHAPTER TWO

Literature Review

2.1 Introduction

The concept of culture began to make an impact on organisations in the late 1970s. However, its existence can be traced to earlier writers such as Barnard in 1938 and Jaques in 1952 (Martin, 2001). Culture is a difficult concept to define as it encompasses a vast number of variables. Culture emerged from anthropological research among ethic groups and societies. (Van Maanen and Barley, 1983). According to Allaire and Firsirotu (Martin, 2001) there are eight separate schools of thought on what the term culture means. Furthermore, in 1952, Krober and Kluckhohn reported 164 meaning of the concept of culture (Martin, 2001). Kraut (1996) points out that because of the variety of meaning being diverse and contradictory it is impossible to add value as a research idea. According to Flanagan (1995) although there are various definitions to explain the concept of culture, it fails to explain the influence it has on individual behaviour, the productivity of a company and general management of the organisation. However, Joyner (2001) emphasises that understanding and utilising an organisation's culture makes the difference between triumph and tragedy and that ignoring the present culture in the organisation significantly impacts on the organisation's well-being.

According to Johnston (1995), most literature agrees that organisational culture consists of the following components:

- Holistic: this refers to the whole of which the sum is more as the parts thereof;
- Historic: echo the history of the organisation;

- Related to rituals, values and symbols;
- Social construction: created and retained by a group of people who started the organisation;
- Soft: intrinsic in nature;
- Difficult to change: the degree of difficulty differs from author to author.

To understand the power of culture, one needs to investigate the perspectives and definitions of organisational culture.

2.2 Different Perspectives within Organisational Culture

A vast array of theories explains and predicts how organisations and the people in the organisations will behave in varying organisational structures, cultures and circumstances. The major perspectives of organisation theory that has led up to organisational culture are depicted in Figure 2.

Figure 2 provides a clear picture of how the organisational culture perspective has learned and built upon previous schools of organisation theory. Figure 2 makes it evident that organisational culture did not appear spontaneously, but evolved out of a long history within organisation theory (Ott, 1989).

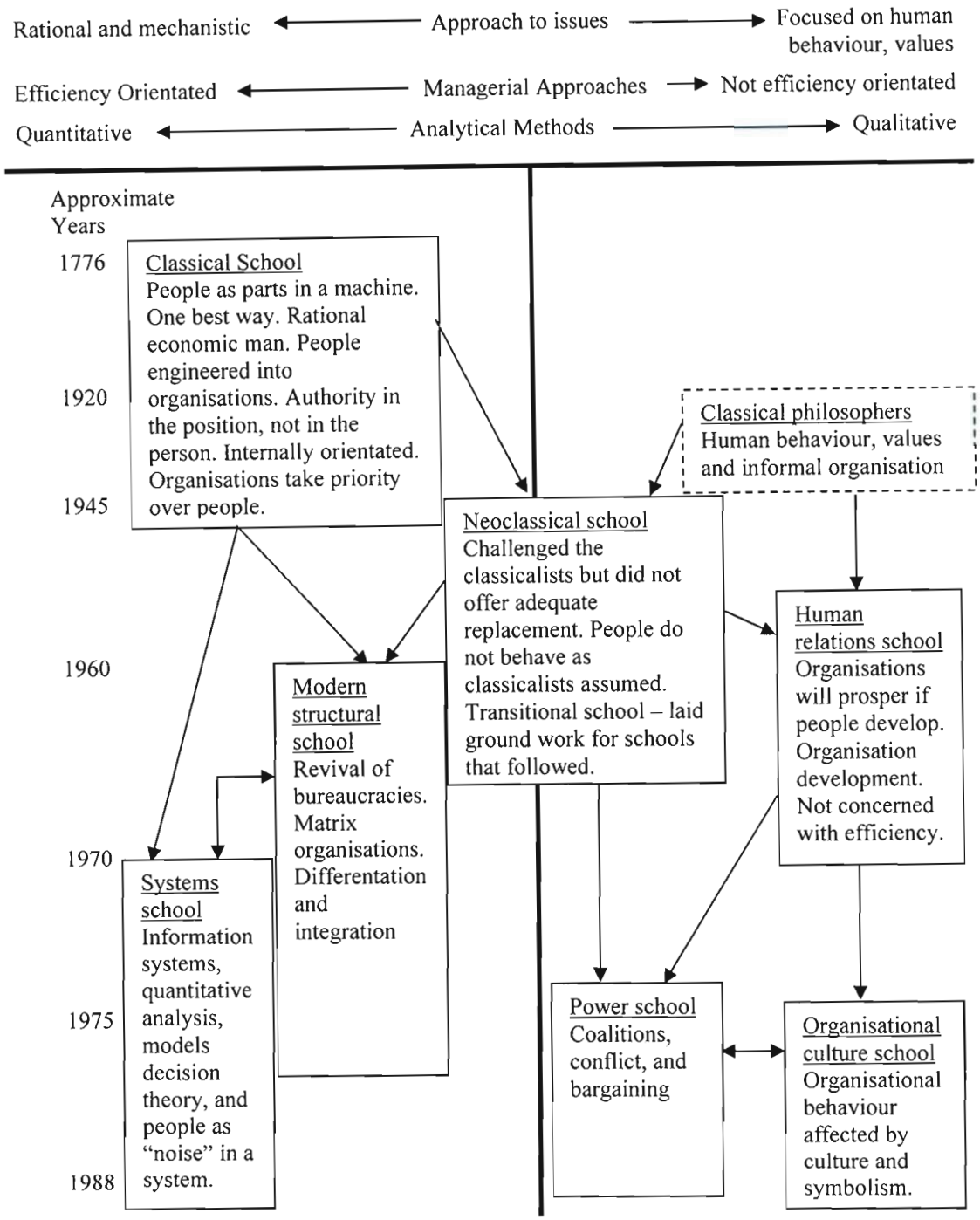


Figure 2: The Historical Development of the Major Perspectives of Organisation Theory (Ott, 1989)

In addition, many social science disciplines contributed to organisational culture. Anthropologists strived to understand how the values and beliefs that make up a society's culture affect the structure and functioning of

that society. Many anthropologists believe that to understand the relationship between culture and society, it is necessary to look at culture from the viewpoint of the people in that society (Moorhead and Griffin, 1995). Psychological cultural anthropology sees culture as distinctive constellations and personality determinants consisting of patterned worldviews and values ideals (Ott, 1989). Sociologists studied the causes and consequences of culture focusing on the informal structure. Sociologists such as Emile Durkheim and Max Weber believed that by studying rituals they were able to understand the most basic values and beliefs of a group of individuals (Ott, 1989). Ouchi's Theory Z, Deal and Kennedy's Corporate Culture, and Peters and Waterman's In Search of Excellence research studies are based on sociological methods (Moorhead and Griffin, 1995).

2.3 Definitions of Organisational Culture

Schein (1985) defines organisational culture as the 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.

Robbins (1998), states that organisational culture is a common perception held by the organisation's members; a system of shared meaning held by the members that distinguished the organisation from other organisations.

Simplistically, Drennan (1992) defines organisational culture as "the way things are done around here". It is the habits, the prevailing attitudes and it is the expected and accepted behaviour.

Lewis (2001) defines culture as "the behaviour people exhibit in response to their environment".

Schwartz and Davis (1981) define culture as a pattern of beliefs and expectations shared by the organisations members. These beliefs and expectations produce norms that powerfully shape the behaviour of the individuals and groups in the organisation.

Ruin (2001) defines culture as a pattern of values, ideals attitudes, beliefs and behaviours that employees enact and portray, projecting themselves to act and think in certain ways that is distinct from other organisations.

Kreitner and Kinicki (1995) define culture as the social glue that binds members of the organisation together.

Allen and Kraft (1982) define culture as a more or less enduring constellation of forces with the group of organisations that causes its members to respond in specific ways to a defined entity. The building blocks of cultures are the norms that develop. Norms are those expected, accepted and supported ways of behaving that determine so much of what we do.

Scholz (Brown, 1998) defines corporate culture as the implicit, invisible, intrinsic and informal consciousness of the organisation which guides the behaviour of the individuals and which shapes itself out of their behaviour.

According to Kotter and Heskett (1992) "at a deeper and less visible level culture refers to values that are shared by the people in a group and that

tend to persist over time even when group membership changes. At the more visible level, culture represents the behaviour patterns or style of an organisation that new employees are automatically encouraged to follow by their fellow employees. Each level of culture has a tendency to influence the other."

2.4 Models/Frameworks of Organisational Culture

Whilst the above definitions provide a concise explanation of organisational culture, frameworks have emerged for describing the values in organisation cultures.

Researchers use models as conceptual frameworks for conducting research and building a body of knowledge in a given field. Practitioners use models as concept tools to guide data collection, help with data interpretation and guide action steps (Nadler et al, 1979). Nadler, Hackman and Lawler (1979) identified three general frameworks viz.:

1. Experiential models
2. Scientific models
3. Pragmatic models

Experiential models reflect what an individual has learnt about an organisation based on experience and tend to be intuitive and explicit; scientific models tend to be explicit and draw their validity from facts that have been tested; and pragmatic models are a combination of experiential and scientific models.

2.4.1 The Ouchi Framework

William G. Ouchi (Moorhead and Griffin, 1995) analysed the organisational cultures of three groups of firms, which he characterised as typical U.S. firms, typical Japanese firms and U.S. Type Z firms.

Through his analysis, he developed a list of seven points on which these firms could be compared against (Table 1).

Cultural Value	**Expression in Japanese Companies**	**Expression in U.S Type Z Companies**	**Expression in Typical U.S. Companies**
Commitment to Employees	Lifetime employment	Long-term employment	Short-term employment
Evaluation	Slow and qualitative	Slow and qualitative	Fast and quantitative
Careers	Very broad	Moderately broad	Narrow
Control	Implicit and informal	Implicit and informal	Explicit and informal
Decision making	Group and Consensus	Group and Consensus	Individual
Responsibility	Group	Individual	Individual
Concern for people	Holistic	Holistic	Narrow

Table 1: The Ouchi Framework (Moorhead and Griffin, 1995)

Commitment to Employees: Typical Japanese and Type Z U.S. firms share the cultural value of trying to keep staff members as long as possible and only as a last resort do they fire staff members. Under typical U.S. firms, employees can be fired if they are not performing acceptably.

Evaluation: In Japanese and Type Z U.S. firms evaluation takes a long time, up to 10 years, and requires the use of qualitative information about performance as opposed to typical U.S. companies in which evaluation is fast and emphasises quantitative measure which encourage short term thinking among employees.

Careers: Ouchi observed that the careers most valuable in Japanese and Type Z U.S. firms span multiple functions. In Japan this leads to very broad career paths, which may lead one to experience six or seven distinct business functions, whilst in Type Z U.S. firms this is slightly narrower. However, in typical U.S. firms managers perform only one or two different business functions.

Control: Most Japanese and Type Z U.S. firms assume that control will be exercised through informal, implicit mechanisms such as organisational culture. Typical U.S. firms expect guidance from explicit directions such as job descriptions, rules and regulations.

Decision Making: In most typical U.S. firms, individual decision-making is expected as compared to typical Japanese firms where decision-making occurs in groups.

Responsibility: Based on decision-making, typical Japanese firm's strong cultural norms support collective responsibility whereas in Type Z and U.S. firms individuals are expected to take the responsibilities for their decisions.

Concern for people: In typical Japanese firms and Type Z firms, the cultural value that dominates is a holistic concern for its employees

extending into their personal life. In typical U.S. firms, the concern for employees is narrow and focuses on the workplace.

Ouchi (Moorhead and Griffin, 1995) argued that the cultures of Japanese and type Z firms assisted them to outperform typical U.S. firms. Ouchi (Moorhead and Griffin, 1995) attributed this to the ability of Japanese and Type Z firms to invest into their employees over a long period.

2.4.2 The Peters and Waterman Approach

Peters and Waterman (Moorhead and Griffin, 1995) chose a sample of highly successful U.S firms in order to describe the management practices that led to their success.

Attributes of an Excellent Firm	
1. Bias for action	5. Hands on management
2. Stay close to the customer	6. Stick to the knitting
3. Autonomy and entrepreneurship	7. Simple form, lean staff
4. Productivity through people	8. Simultaneously loosely and tightly organized.

Table 2: The Peters and Waterman Framework (Moorhead and Griffin, 1995)

Bias for action: Managers in these firms were expected to make decisions even if all the facts are not known. According to Peters and Waterman (Moorhead and Griffin, 1995) organisations with cultural values that included a bias for action outperformed other firms without such a value.

Stay close to the customer: Peters and Waterman (Moorhead and Griffin, 1995) believes that organisations that value their customers outperform firms without this value as the customer provides a source of information about current products, source of idea for future products and a source of a firm's current financial performance.

Autonomy and entrepreneurship: Peters and Waterman (Moorhead and Griffin, 1995) maintain that the successful firms ensure innovation by encouraging independent, creative and even risk taking activities.

Productivity through people: Successful firms believe that their employees are their most important assets.

Hands-on-management: Peters and Waterman (Moorhead and Griffin, 1995) observed a tendency in large firms for senior management to lose contact with the business. In their study, Peters and Waterman (Moorhead and Griffin, 1995) noted that the successful firms insisted that their senior management stay in touch with the firms business by "wandering around the plant".

Stick to the knitting: It was found that the successful firms were reluctant to diversification and relied upon their core competencies.

Simple form, Lean Staff: Peters and Waterman (Moorhead and Griffin, 1995) found that successful firms had few administrative layers and relatively small corporate staff groups.

Simultaneously loosely and tightly organised: The firms are tightly organised because all their staff members understand and believe in their

firm's values, however maintain loosely organised as they have less administrative overhead, fewer rules and regulations, and fewer staff members.

2.4.3 Schein's Framework

Schein analysed organisational culture from three levels (Table 2):

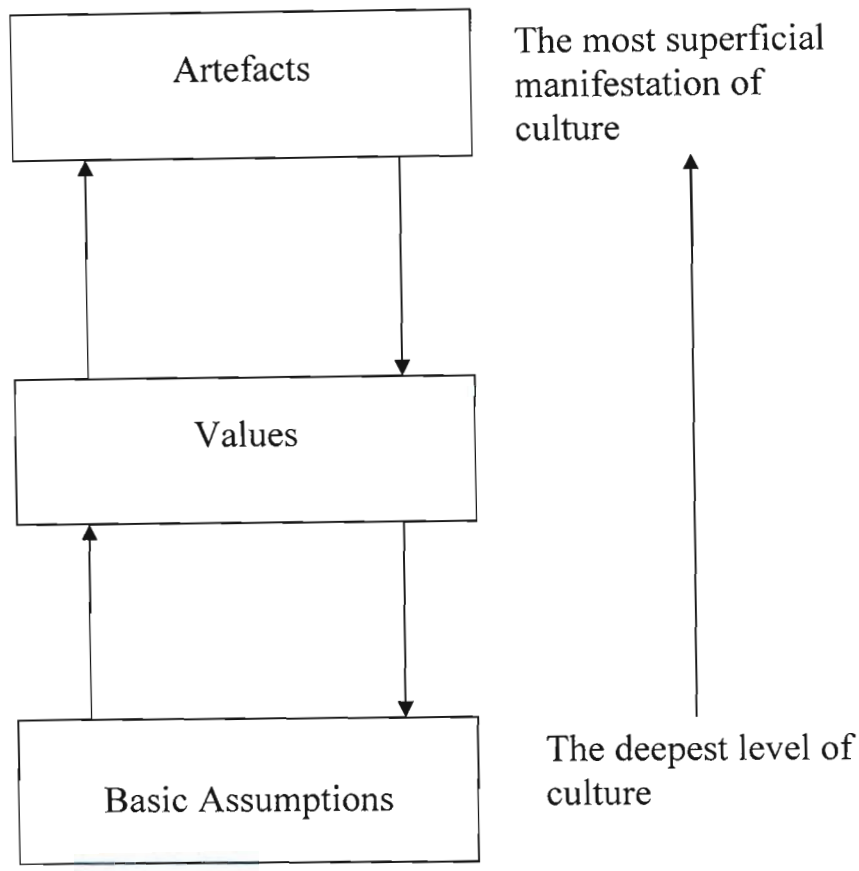


Figure 3: Levels of Culture and their Interaction (Brown, 1998)

Artefacts: "Artefacts would include the visible products of the group such as the architecture of its physical environment, its language, its technology and products, its artistic creations, and its style as embodied in clothing, manners of address, emotional displays, myths, stories told about the organisations, published list of values, observable rituals and

ceremonies and so on. This level also includes the visible behaviour of the group and the organisational processes into which such behaviour is made routine, written and spoken language, artistic production and overt behaviour of its members" (Schein, 1992). Artefacts are visible but not easily comprehensible. Organisational artefacts leave an immediate impression about the culture of the company. Schultz (1995) divided artefacts into a further five analytical categories as depicted in Table 3.

Physical Manifestations	Architecture and interior arrangements Physical space and office design Decoration of hallways and conference rooms Dress code of the organisation Attendance of functions
Language	Sound and noise Modes of speaking Special expressions and slogans
Stories	Minor stories from everyday life Stories of key events Tale of the "good old days"
Technology	Materials Operation Knowledge
Visible Traditions	Social traditions Leadership traditions Work Tradition

Table 3: The artefacts level in Functionalist Culture Analysis (Schultz, 1995)

Values: "All group learning ultimately reflects someone's original values; someone's sense of what ought to be as distinct from what it is. When a group is first created or when it faces a new task issue or problem, the first solution proposed to deal with it reflects some individual's own assumption what is right and what is wrong, what will work or not work..."(Schein, 1992). Values have a higher level of consciousness as they are not accepted as reality and can be debated. Values form the reasons why things are done in a certain way and lead to the strategies, goals and philosophies of an organisation. Schein (1992) emphasizes the leader's decisive significance in formulating new values for affecting and changing culture.

Basic Assumptions: "Basic assumptions are the invisible and implicit assumptions that actually guide behaviour, that tell group members how to perceive, think about and feel about things" (Schein, 1992). Basic assumptions are the unconscious taken for granted beliefs, habits and feelings that are the source for values and actions.

2.4.4 Rousseau's Model

Rousseau (Cooper, 1994) criticised researchers who concentrated on a few attributes and proposed a multilayer model, which he structured as a ring. The rings were organised from readily accessible layers (outer layers) to difficult to access (inner layers).

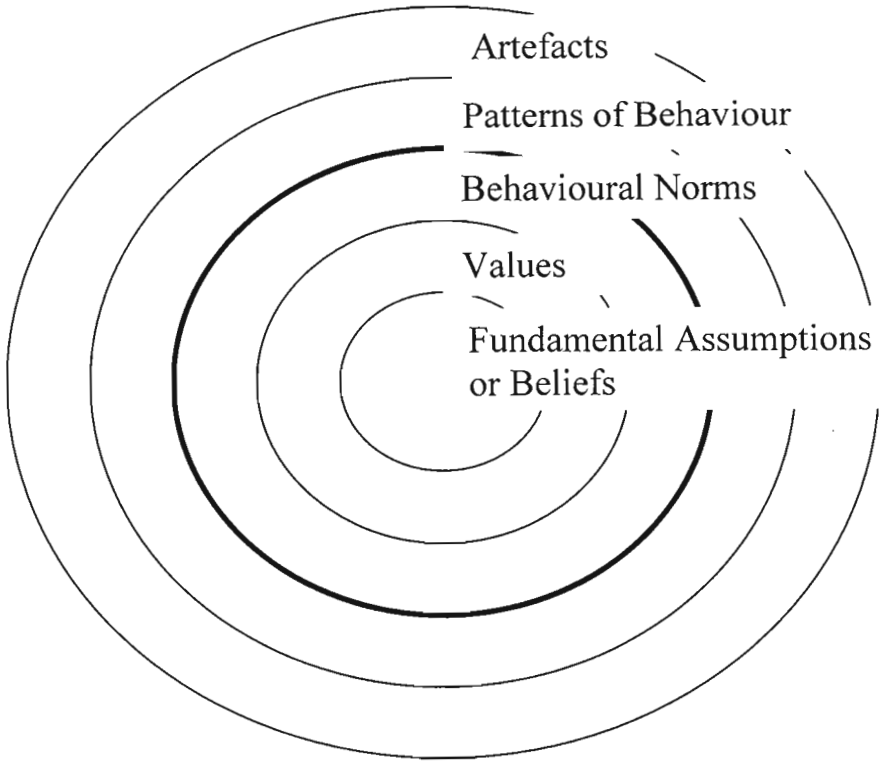
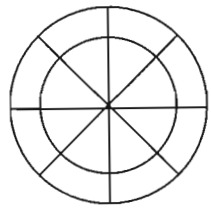


Figure 4: Layers of Culture (Cooper, 1994)

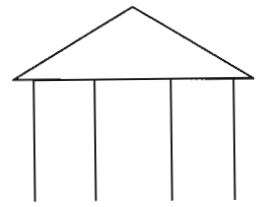
Rosseau's model appears to be simply an extension of Schein's model, which indicated three levels viz. artefacts, beliefs values and attitude, and basic assumptions.

2.4.5 The Harrison/Handy Classification

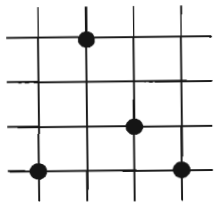
In 1972, Harrison suggested four main types of culture, namely power culture, role culture, task culture and person culture. In 1978 Handy reworked Harrison's idea describing the four cultures using symbols of Greek mythology (Brown, 1998).



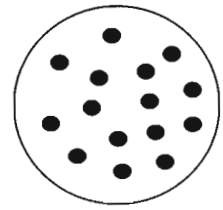
Power Culture (the web)



Role Culture (Greek Temple)



Task Culture (lattice)



Person Culture (cluster)

Figure 5 : Handy's Four Organisational Cultures (Brown, 1998)

The power culture is based on the values of strength, direction, decisiveness and determination. It is a culture, which has a powerful central figure that influences those around him/her through personal contact. All the people in the system are connected via functional or structural links and decisions are taken largely on "the outcome of balance of influence" rather than on a functional or objectively logical basis (Handy, 1981). Rules and procedures are minimal and shortcuts are found around bureaucracy. This organisation is largely dependant on trust, empathy and personal communication for its effectiveness. Individuals are encouraged to perform their tasks with few questions asked. The strength of this type of culture is their ability to react quickly but their success is dependant on the person at the centre. Employees who are confident about the use of power thrive however, inappropriate recruitment may lead to low staff morale, high turnover in middle

management positions and decisive action to move in an inappropriate strategic direction (Brown, 1998).

The role culture is based on the values of order, structure, stability and control. The strength of the role culture lies in its functions such as finance, procurement, production etc., which are co-ordinated and controlled by a group of executive management. The role culture does not focus on personalities but rather rules, procedures and job descriptions. The role culture is successful in organisations where the environment is stable and predictable, where product lifespans are long and where scale of economies are more important than the ability to adapt to technological change. The main problem is that role culture reacts very slowly to change. Organisation that exhibit a role culture attract individuals that value security and predictability whilst frustrating ambitious power orientated individuals (Brown 1998).

The task culture also known as achievement culture is based on the values of competence, growth, success and distinction. The task culture may be thought of a matrix with power being located at its interstices. This culture develops in organisations where specific jobs or projects are assigned to teams. Task cultures focus on completing the job by bringing together the necessary resources to ensure success. In environments where the market is competitive, product lifespans are short and constant innovation is critical, the task culture is successful. However the task culture organisations is heavily reliant on the quality of people and cannot easily maximise scales of economies (Brown, 1998).

The person or support culture is based on relationships, mutuality, service and integration. Support cultures arise when individuals decide that it is

better to organise collectively. Hence, organisations exist to help the individuals as opposed to the individuals assisting the organisation. In this culture, the individual has complete autonomy, influence is shared and power is exercised usually on the basis of expertise. This culture works well where people work together for a long time and where mutual trust develops (Brown 1998). Harrison (1992) points out that this culture is not results orientated and works best if it lives in tandem with an achievement culture within the organisation.

2.4.6 The Deal and Kennedy Classification

Deal and Kennedy (1982) identified four generic cultures: the tough-guy, macho culture; the work-hard/play-hard culture; the bet-your company culture and the process culture. Two factors, the degree of risk that the organisation participates in its activities and the speed at which the company and its employees obtain feedback on the decision/strategies, are used to determine the culture.

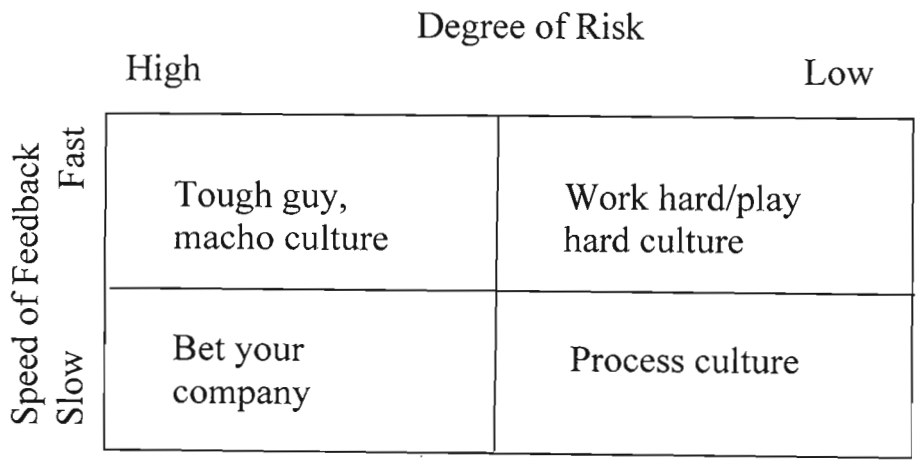


Figure 6: Environmental Characteristics and Cultural Types (Narayanan and Nath, 1993)

Deal and Kennedy (1982) note that no company will precisely fit their classification but maintain that the framework is useful as a first step towards identifying the organisational culture.

The tough-guy, macho culture

This organisation is characterised by individuals that frequently take high risks and encounter rapid feedback on the decisions. This culture focuses on the speed and the short term, which could result in individuals experiencing "burn-out" problems. Internal competition, tension and conflict are common traits of such cultures. Tough-guy, macho cultures are highly successful in high risk, quick return environments, but they are unable to either make long-term investments or tolerate temperamental personalities. These cultures have a high staff turnover and often fail to develop a strong culture (Deal and Kennedy, 1982).

The work-hard/play-hard culture

This organisation is characterised by a low risk, quick feed back culture that emphasises fun. These organisations tend to be dynamic and are often customer-focused. They are also characterised by organisations that encourage quick fix solutions so as to concentrate on volumes rather than quality (Deal and Kennedy, 1982).

The bet-your company culture

This culture exists in organisations where the risks are high and the feedback is slow. These organisations invest large amounts of money in projects and the success or failure is ascertained many years later. Decision-making tends to be top down. Employees that thrive in this culture need to respect authority, co-operate with colleagues and deal with high-pressure decision making (Deal and Kennedy, 1982).

The process culture is a low risk, and slow feedback culture. Employees in these cultures tend to be cautious, protective, orderly, punctual and pay attention to detail. Generally, a hierarchical structure exists as reflected by the emphasis on job titles and formality. These organisations are unable to react quickly and lack vision and creativity (Deal and Kennedy, 1982).

2.4.7 The Quinn and McGrath Classification

Quinn and McGrath (Cameron and Quinn, 1999) developed the Competing Values Framework from conducting research on the major indicators of effective organisations. Thirty nine indicators of effectiveness were subjected to statistical analysis from which two major dimensions emerged. One dimension differentiates criteria that emphasise flexibility, discretion and dynamism from stability, order and control whilst the second dimension differentiates criteria that emphasise internal orientation, integration and unity from external orientation, differentiation and rivalry. Together these two dimensions form four quadrants labelled Hierarchy, Market, Clan and Adhocracy.

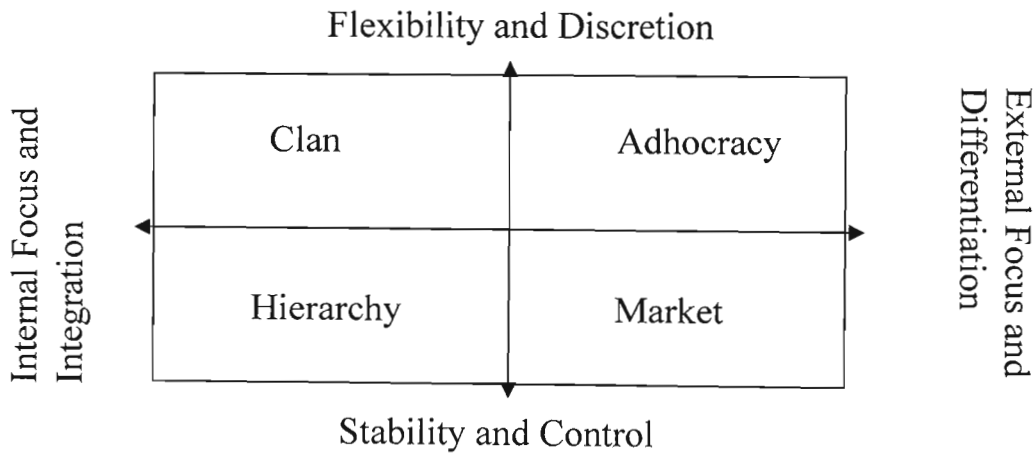


Figure 7: The Competing Values Framework (Cameron and Quinn, 1999)

The hierarchy culture is found in an environment that is relatively stable, tasks and functions could be integrated and co-ordinated, uniformity in products and services are maintained, and employees and jobs are under control. Clear lines of decision making authority, standardised rules and procedures, and control and accountability mechanisms are essential for success. The leaders/managers should have good co-ordination skills and be efficiency minded as smooth running organisation is critical for the hierarchy culture. The long term concern is on stability and performance with smooth efficient operations. Success is defined in terms of dependable delivery, smooth scheduling and low cost. Employees are concerned with secure employment and predictability (Cameron and Quinn 1999).

The market culture exists in an organisation that is concerned with transactions costs associated with external constituents instead of internal affairs so as to create a competitive advantage. The core values of such organisations are competitiveness, productivity, bottom line profits and market strength. Leaders of such organisations are hard-driving producers who are tough and demanding. The glue that holds this organisation together is an emphasis on winning. Successes of these organisations are defined in terms of market share and penetration (Cameron and Quinn, 1999).

The clan culture is a very friendly place to work where people share a lot of themselves. The leaders of such organisations are considered as mentors or even as parent figures. The organisation is held together by loyalty and commitment to the organisation is high. The organisation emphasises long term benefit of human resource development and attaches importance to cohesion, shared values and goals, individuality,

and morale. Success is defined in terms of sensitivity to customers and concern for people. The organisation places a premium on teamwork, participation and consensus (Cameron and Quinn, 1999).

The adhocracy culture is found in organisations that are responsive to uncertain environments where innovative and pioneering products breeds success. Emphasis is placed on creativity, entrepreneurship and cutting edge activities. Adhocracy does not have centralised power. Employees are risk orientated and effective leadership is visionary, and innovative. The organisation's long term success is on rapid growth, and acquiring new products (Cameron and Quinn, 1999).

2.4.8 The Scholz Classification

Scholz (Brown, 1998) identified three cultural dimensions, namely:

1. evolution (how culture changes over time)
2. internal (how internal circumstances of an organisation affects its culture) and
3. external (how an organisation's environment affects its culture)

The evolution dimension was then divided into five culture types namely: Stable, Reactive, Anticipating, Exploring, and Creative. The internal dimension was divided into three culture types namely Production, Bureaucratic and professional. The external dimension was taken from Deal and Kennedy's classification.

Culture	Personality	Time-Orientation	Risk Orientation	Slogan	Change Orientation
Stable	Introvert	Backward Looking	Risk averse	"Don't rock the boat"	No change accepted
Reactive	Introvert	Orientated to present	Accepts minimum risks	"Roll with the punches"	Minimal change accepted
Anticipating	Partially introvert, partially extrovert	Orientated to the present	Accepts familiar risks	"Plan ahead"	Incremental change accepted
Exploring	Extrovert	Orientated to present and future	Operates on risk/gain trade off	"Be where the action is"	Accepts radical change
Creative	Extrovert	Orientated to the future	Prefers unfamiliar risks	"Invent the future"	Seek novel change

Table 4: The Evolution Induced Dimension (Brown, 1998)

Cultural type	Rountiness	Standardisation	Skill Requirement	Property rights
Production	High	High	Low	Weak
Bureaucratic	Medium	Medium	Medium	Derived from the position held in the hierarchy
Professional	Low	Low	High	Vested in the person by virtue of the skills and knowledge possessed.

Table 5: The Internal Induced Dimension (Brown, 1998)

2.4.9 The Norms Diagnostic Index

Allen and Kraft (1982) view organisational culture as being associated with an organisation's unconscious processes. They define organisational culture as a more or less enduring constellation of forces within a group or organisation, which causes its members to respond in certain ways. The central construct in their framework is the concept of norms. The Normative Systems model for cultural change involves four integrated phases:

- the Discovery phase which involves an analysis of the organisation's current cultural norms
- the Involving people phase which is centred around workshops involving all affected people and focuses on issues of understanding, identifying and changing culture
- the Bringing about change phase which involves a number of departmental; efforts designed to modify key elements of the organisational culture, and
- the Evaluating and renewing phase which involves a formal evaluation of the effort in the three key results area of performance, program and culture.

Using the Normative System Model, Allen and Kraft (1982) developed the Norms Diagnostic Index (N.D.I). The N.D.I is a self-administered survey used to measure organisational culture. The N.D.I consists of normative statements that have been selected as indicators of success, or lack of it, of an organisation's culture.

2.4.10 Athos and Pascale's 7-S Model

Athos and Pascale (1981) developed the 7-S model, which is helpful for ensuring organisational effectiveness. In this framework, the organisation

is thought of as a holistic entity where each individual component is inter-related to each other and none exists independently. The framework comprises of:

1. Strategy, the route an organisation takes in order to achieve its goals,
2. Structure, how the organisation is structured to optimally so as to achieve its goals,
3. Systems, the formal and informal procedures that ensure the organisation's activities are smoothly fulfilled,
4. Skill, the competencies and capabilities of the organisation in its people, systems and processes,
5. Style, how the management and the organisations presents themselves to its stakeholders,
6. Staff, the specific qualities of the human resources
7. Super-ordinate goals, the underlying philosophy that drives the organisation.

2.4.11 Kilmann's Five Step for Closing Cultural Gaps

Kilmann and Saxton (1983) developed a norm based change process framework which involves five sequential steps:

1. Surfacing actual norms
2. Articulating new direction
3. Establishing new norms
4. Identifying cultural gaps
5. Closing cultural gaps.

The Kilmann-Saxton Culture Gap survey was develop from the collection of more than four hundred managers and employees in more than twenty organisations in America (Kilmann and Saxton, 1983). This instrument is

used to determine the gap between the current and desired cultures by allowing candidates to evaluate a pair of organisational norms. Cultural gaps were identified in four areas: task support, task innovation, social relationships and personal freedom. After identifying the cultural gaps, candidates develop agreements with respect to new, desired norms and then agree on a process to monitor their progress (Kilmann and Saxton, 1983).

2.4.12 Goffee and Jones's Model

Goffee and Jones (Robbins, 1998) in their cultural model argue that two dimensions underlie organisational culture. The first dimension is called sociability, which is a measure of friendliness. High sociability means that people do kind things without expecting something in return. Sociability is consistent with a high people orientation, high team orientation, and a focus on processes rather than outcomes. The second dimension is termed solidarity, which is a measure of task orientation. High solidarity means that people can overlook personal biases and rally behind common interest and common goals. Solidarity is consistent with high attention to detail and high aggressiveness. Figure 8 depicts the Goffee and Jones's model.

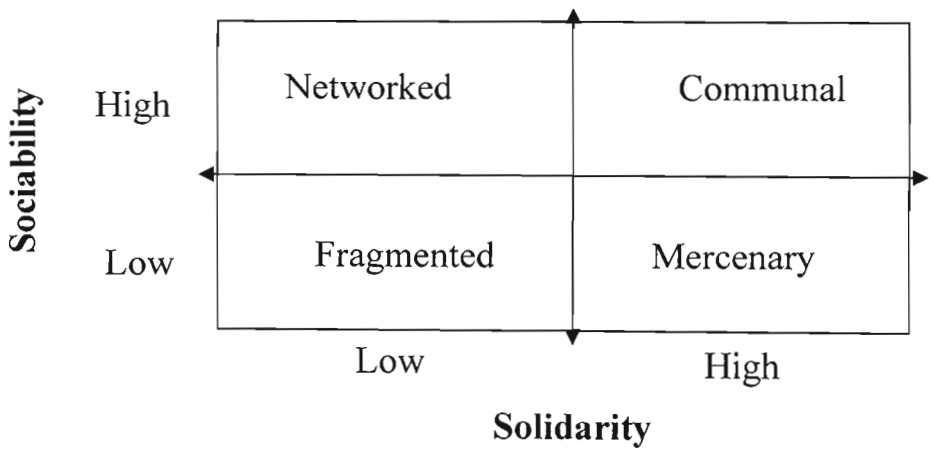


Figure 8: The Character of a Corporation (Robbins, 1998)

Networked Culture: These organisations view members as family and friends. People like to know each other. People willingly give assistance and share information. The negative aspect associated with this culture is that the focus on friendships can lead to a tolerance for poor performance and the creation of political cliques (Robbins, 1998).

Mercenary Culture: These organisations are fiercely goal focused. People are intense and determine to meet goals. They have a zest for getting things done quickly and a powerful sense of purpose. Mercenary cultures concentrate on destroying the enemy in addition to winning. This focus on goals and objectivity leads to a minimal degree of politics. The negative impact of this culture is that it can lead to inhumane treatment of people who are poor performers (Robbins, 1998).

Fragmented Culture: These organisations are made up of individualists. Commitment is primarily to individual members and their job tasks. There is little or no identification with the organisation and employees are judged solely on their productivity and quality of work produced. The negative side of this culture is excessive reviewing of others and an absence of collegiality (Robbins, 1998).

Communal Culture: This culture values friendship and performance. People have a feeling of belonging but there is still a ruthless focus on achieving their goals. Leaders of such cultures tend to be inspirational and charismatic with a clear vision of the organisation's future. The negative side is that these cultures can consume one's life and it could result in a cult-like work climate (Robbins, 1998).

The models/ frameworks identified to analyze organisational culture are not all encompassing and many more models exist. However, they are important in that these models identify the important dimensions. Based on this literature survey, the Quinn and McGrath framework is used to establish the organisational culture within the School of Process and Mechanical Engineering.

2.5 The Significance of Organisational Culture

According to Lundberg (1990), determining the organisational culture of an institution is undertaken for a variety of reasons namely:

- Influential members have heard about organisational culture and just want to know about their own.
- An activity that assists in the socialisation of newer members or will assist members who are geographically or functionally dispersed to become reacquainted with the organisation's reality.
- To develop a greater cohesion amongst the management team – for itself or in anticipation of or as a basis for other executive actions such as long–range planning.

Irrespective of the purpose, as members become aware of their organisational culture, this awareness becomes a source of information upon which everyday decisions and actions are based (Lundberg, 1990). Brown (1995) holds that organisational culture has significance on reducing conflict, improving co-ordination, control and motivation, and creating a competitive advantage. Shared values beliefs and assumptions steer people to act and think appropriately and according to the organisation's needs. Struwig and Smith (2002) found that statistical significant relationship exists between firms with different organisational culture types and how strategies are formed and recommended that

increased emphasis be placed on the need for alignment between organisational culture and the strategy of the firm. Brown (1995) describes the most important functions of organisational culture as follows:

- Reducing conflict

  Culture is seen as the cement that bonds the organisation together. A uniform culture promotes problem definition, perception, systematisation, evaluation of an option and a preference to specific actions. Culture can be a very useful power for integration and consensus.

- Co-ordination and control

  Culture promotes systematic approaches and therefore supports processes of co-ordination and control. Shared norms of behaviour allow people to agree on general organisation and decision making.

- Reducing uncertainty

  On individual level is the function of culture the transferring of "culture" to a new employee. The new employee will make assumptions about what is important, how things work and how he should behave. The acceptance of this cultural framework is a mechanism to reduce anxiety, easier decision making and promoting rational actions.

- Motivation

  Culture is a very important source of motivation and has an important impact on the effectiveness and efficiency of an organisation. Organisational culture provides employees with a focus on identification, honesty, association and a feeling of importance to the organisation.

- Competitive advantage

  Because culture promotes co-ordination and control, reduces uncertainty and enriches motivation, the organisation can improve its effectiveness and efficiency and therefore increases its chances to be a successful player in the industry.

Robbins (1998) suggests that since organisational culture is shared by the majority of the organisation's members, the culture enhances work place stability. Hence, culture serves as a control mechanism shaping employees attitudes and behaviour to meet appropriate standards, thereby revealing an adhesive function, which helps hold the organisation together.

2.6 Summary

The concept of organisational culture made its impact on organisation in the late 1970's. A vast array of theories exists which predict how organisations and the people will behave in the varying organisational structures. After a reviewing the many definitions of organisational culture, it can be concluded that organisational culture is seen a shared beliefs, values and philosophies shared by members within an organisation. After reviewing the various models/frameworks to determine organisational culture, it was concluded that the Organisational Cultural Assessment Instrument, which is based on the Competing Values Framework, would be utilised to determine the organisational culture within the School of Process and Mechanical Engineering. Lastly, the benefits of studying organisational culture were indicated.

CHAPTER 3:
Research Methodology

3.1 Introduction

The research objective of this study is to determine the organisational culture that exists within the School of Process and Mechanical Engineering at Technikon Witwatersrand. The literature review established a brief history of organisational culture, definitions of organisational culture, and the models/frameworks available for understanding and evaluating organisational culture. According to Cameron and Quinn (1999) to measure organisational culture, three strategies are available:

1. a holistic approach, which engages in an in-depth participation observation,
2 a metaphorical or language approach in which the investigator uses language patterns in documents, reports and stories in order to uncover cultural patterns and
4. a quantitative approach in which the investigator uses questionnaires and/or interviews to assess particular dimensions of culture.

At the end of the literature review, the Quinn and McGrath framework was chosen to evaluate the organisational culture within School of Process and Mechanical Engineering. This research is descriptive in nature and the collection of data was accomplished by use of a questionnaire, called the Organisational Cultural Assessment Instrument (OCAI). The data obtained from OCAI was then used to draw a cultural profile, which reflects the current and preferred culture.

3.2 The Organisational Cultural Assessment Instrument (OCAI)

The OCAI is based on the Competing Values Framework developed by Quinn and McGrath (1999). Permission was obtained from Cameron K.S (2003) for use of the OCAI to determine the organisational culture of the School of Process and Mechanical Engineering. The OCAI is in the form of a questionnaire that requires candidates to respond to six characteristics. Each characteristic has four alternatives amongst which 100 points must be allocated. The alternative most applicable to the organisation as it currently is receives the highest points and the alternative least applicable receives the lowest points. The OCAI then provides a second column, labelled Preferred, which allows for the candidate to rate the same six characteristics as they think it should be for the organisation to be successful.

3.3 Measurement of the OCAI

According to Cooper and Schindler (2001), there are three major criteria for evaluating a measurement tool:

1. validity, which refers to the extent to which a test measures what we want to measure,
2. reliability, which measures the accuracy and precision of the measurement process and
3. practicality, which refers to factors of economy, convenience, and interpretability.

With regard to validity, in 1991, Cameron and Freeman (Cameron and Quinn, 1999) produced evidence for the validity of the OCAI in their study of the organisational culture in 344 institutions of higher education and provided strong evidence for concurrent validity. In 1991, Quinn and Spreitzer (Cameron and Quinn, 1999) produced evidence for convergent

validity and discriminant validity using a multitrait-multimethod analysis and a multidimensional analysis. The multitrait-multimethod analysis was produced by using two different instruments, one of which was the OCAI. Upon analysing the multitrait-multimethod correlation matrix, it was found that all diagonal correlation coefficients were statistically different from zero and in fact, they ranged from 0.212 and 0.151, indicating a moderate level of correlation. Discriminant validity was test in three ways. In the first test, scales in the same culture quadrant were tested to see if they correlated higher with each other than they did with scales of different culture quadrants measured by separate instruments. Twenty three of the twenty four comparisons were consistent with expectations thus providing support for discriminant validity. In the second test, scales with the same cultures were expected to correlate higher with each other than with scales in a different culture quadrant measured by the same method. In sixteen of the twenty four scales, this was the case providing moderate support for discriminant validity. In the last test, the same pattern of interrelationships was expected to exist within and between each of the independent methods. Kendall's co-efficient of concordance was computed which provided a coefficient of 0.764, providing further support for discriminant validity.

In terms of reliability, Quinn and Spreitzer in 1991 (Cameron and Quinn, 1999), conducted a study in which 796 executives from 86 different public firms rated their own organisational culture. The Cronbach alpha coefficient, which measures the degree to which instrument items are homogeneous and reflect the same underlying construct, was calculated for each of the cultural types. The coefficients obtained were 0.74 for the clan culture, 0.79 for the adhocracy culture, 0.73 for the hierarchy culture and 0.71 for the market culture which were interpreted as that they

respondents tended to rate their organisational culture consistently across the various questions. Furthermore Yeung, Brockbank and Ulrich in 1991 (Cameron and Quinn, 1999) conducted a study in which 10 300 executives in 1064 businesses were asked to rate their organisational culture. The various questions were group into the appropriate culture types and the reliability coefficients were computed. Their results were 0.79 for the clan culture, 0.80 for the adhocracy culture, 0.76 for the hierarchy culture and 0.77 for the market culture.

In terms of practicality, the researcher found the OCAI to be economically viable as minimal costs were incurred in reproducing the instrument and further conducting a follow-up questionnaire. The ease in which the OCAI was administered supports the convenience of the OCAI and thirdly the interpretability of the OCAI was uncomplicated as the designer of the OCAI provided a great deal of information regarding the OCAI.

In addition, Tucker, Walt and Linda (1990) established that questionnaires could objectively measure organisational culture, in that the questionnaire was able to provide meaningful and reliable information to assist leaders and managers.

3.4 Research Group

The population for this study consisted of all academic and non-academic staff working for the School of Process and Mechanical Engineering. At present, the staff complement comprises of 40 academic individuals and 12 non-academic individuals. The sample population consisted of the entire population, which is a census. This eliminated any problems that

can be associated with sampling. Cooper and Schindler (2001) suggest two conditions are appropriate for a census study: A census study is:

1. feasible when the population is small and
2. necessary when the elements are quite different from each other.

Given the population size of 52 individuals and that their perception may vary, a census study was appropriate.

3.5 Data Collection

The questionnaire was distributed electronically via e-mail thereby minimising distribution time. This allowed respondents to complete the questionnaire electronically and hence facilitated faster processing of the data. However, after obtaining a low initial response of 24 %, a hardcopy of the questionnaire was made available to all non-respondents. This resulted in a total response rate of 58 %.

According to Saunders et.al. (2000) a response rate of greater than 25% is acceptable. Given that the research group is small, and that the researcher currently is employed within the same department, this could have led to a much higher response rate being obtained.

3.6 Data Analysis

The questionnaire uses a response scale in which respondents divide 100 points amongst the four alternatives. This is known as an ipsative scale (also know as a fixed sum scale). The advantage is that this scale provides a 100-point scale for rating as compared to the 7-point Likert scale. The second advantage is that it forces respondents to identify trade-offs that exist in the School of Process and Mechanical Engineering. However ipsative scales do not produce independent responses and hence normal

correlation statistical analysis which are based on the assumption of independent responses on each item are not usually appropriate for this kind of data (Cameron and Quinn, 1999). The average of each alternative A, B, C, and D was calculated. These averages were used to plot the current and preferred cultural profiles of the School of Process and Mechanical Engineering on the Organisation Profile form found in Appendix 3.

3.7 Summary

This chapter discussed the Organisational Cultural Assessment Instrument (OCAI) used to establish the organisational culture of the School of Process and Mechanical Engineering. The validity, reliability and the practicality of the OCAI was discussed indicating that the OCAI is a valid measurement tool. Thereafter the research group, data collection and the data analysis were discussed.

CHAPTER 4

Analysis and Intepretation of the OCAI

4.1 Introduction

In Chapter 3, the research design and methodology of the current study were described. Utilising the research instrument, OCAI, provided by Cameron and Quinn (1999), data was collected on staff member's perception of the existing and preferred organisational culture. In this chapter, the analysis of the data and the interpretation of the findings will be discussed.

4.2 Creating the Cultural Profile of the School of Process and Mechanical Engineering

	Present Culture Mean Scores	Preferred Culture Mean Scores
A	31.70	22.32
B	13.43	23.61
C	16.11	30.50
D	38.77	23.61

Table 6: Average Overall Results of the Present and Preferred Organisational Culture of the Schools of Process and Mechanical and Engineering.

The results of the OCAI were tabulated and the average of each column A, B C, and D was computed (Table 14 and Table 15). The average overall results obtained for the present and preferred culture is reflected in Table 6. The organisational profile for the School of Process and

Mechanical Engineering was then plotted along a diagonal on the Organisation Profile form (Appendix 3) using the values found in Table 6.The present and preferred organisational culture of the School of Process and Mechanical Engineering can be seen in Figure 9.

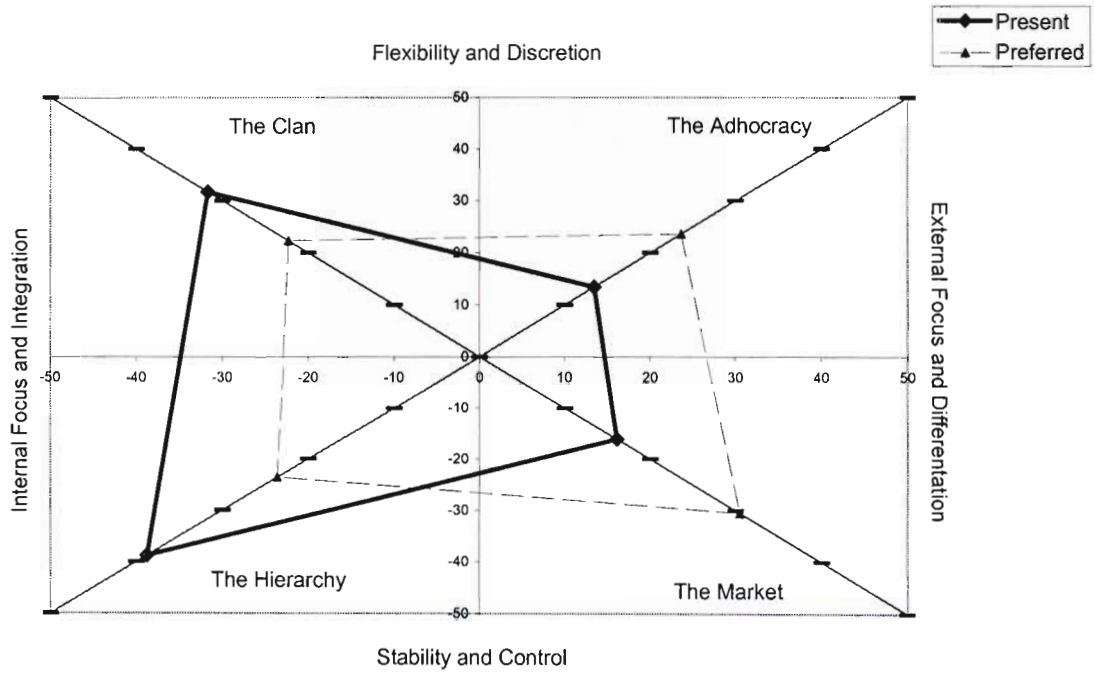


Figure 9: The Overall Cultural Profile of the School Process and Mechanical Engineering

The profile found in Figure 9 shows that presently the School of Process and Mechanical Engineering leans towards a hierarchy culture with 38.77 points being allocated to it.

4.3 Interpretation of the Culture Profiles

Upon plotting the overall culture profile as well as the profiles of each of the six culture attributes, the profiles will be interpreted from six different perspectives, viz.:

1. The type of culture that dominates the organisation
2. discrepancies between the present and preferred culture

3. the strength of the culture type that dominates the organisation
4. the congruence of the culture profiles generated on different attributes and by different individuals
5. a comparison of profile of the School of Process and Mechanical Engineering with the average culture profile of almost one thousand organisations
6. comparability of the organisation with some general trends that has been noticed by Cameron and Quinn (1999)

4.3.1 Dominant Organisational Culture

The quadrant in which the number of points is the highest indicates the type of culture that is emphasized the most. According to Figure 9, it is clear that at present the dominant culture is the hierarchy culture. According to Cameron and Quinn (1999), the hierarchy culture is dominant in an organisation that focuses on internal maintenance with a need for stability and control. It is a very formalized and structured place to work. Procedures govern what people do. The leaders pride themselves on being good coordinators and organisers. Formal rules and policies hold the School of Process and Mechanical together and maintaining a smooth running organisation is most critical. The management of employees is concerned with secure employment and predictability. At present, this culture does reflect the culture within the School of Process and Mechanical Engineering as seen by the steep hierarchical structure, numerous policies which govern the institution and the management's focus on secure employment and predictability.

However, from Figure 9 it can be seen that the future culture that will dominate the School of Process and Mechanical Engineering is the market culture. According to Cameron and Quinn (1999), an organisation

that emphasises the market culture is a results orientated organisation whose major concern is getting the job done. The market culture focuses on external focus and differentiation with a need for control and stability. The glue that holds such organisations together is an emphasis on winning. The long-term focus is on competitive action and achievements in terms of measurable goals and targets. Whilst this future culture is opposite to the current culture, it does align itself towards the new management of employees at the Technikon. At present, the Technikon is implementing a new performance management system, which utilises the Balanced Scorecard approach.

The Competing Values Framework, which is the basis for the OCAI, is based on the fundamental assumptions about how the organisation works and how they are managed. This attribute allows the framework not only to describe cultural issues but also to describe aspects such as organisational leadership, organisational effectiveness, and core management theories associated with each of the four quadrants.

4.3.1.1 Organisational Leadership

According to Cameron and Quinn (1999), when an organisation is dominated by the hierarchy culture, the most effective managers are those that are good at organising, controlling, monitoring, administering, co-ordinating, and maintaining efficiency. Whilst the current dominant culture is the hierarchy culture, the management in terms of the Heads of Department in Chemical, Industrial and Mechanical Engineering may not exhibit the above qualities in order to be effective managers. According to M. Gous (2002) in her study of the Organisational Culture in Higher Education Leadership and Management with Special Reference to Technikon Witwatersrand, managers in general are not checking on staff,

and do not demand their orders to be carried out. In addition M. Gous (2002) concluded that respondents from the Faculty of Engineering strongly disagreed that their managers are primarily leaders whom people would follow spontaneously as he/she has a long-term vision nor do the respondents believe that their managers are the best individuals for their job. From the above and current study, it is clear that there exists a mismatch between the management and the culture, which could be the result of disharmony and conflict within the School of Process and Mechanical Engineering.

The future culture within the Schools of Process and Mechanical Engineering will be the market culture. In a market culture, it is imperative that the leaders possess the ability to influence their group towards the achievement of goals. The path-goal behavioural theory of leadership best describes a market culture leader. The essence of the theory is that it is the leader's job to assist followers in attaining their goals and to provide the necessary direction and/or support to ensure that their goals are compatible with the overall objectives of the organisations (Robbins, 1998). When an organisation is dominated by the market culture, "the managers rated most effective tend to be hard driving, whip cracking, back-side kicking competitors" (Cameron and Quinn, 1999). These managers tend to be good at directing, producing results, negotiating and motivating others (Cameron and Quinn, 1999).

4.3.1.2 Organisational Effectiveness and Management Theory

Cherrington (1994) defines effectiveness as a measure of the organisation's success in bringing inputs into the organisation, transforming them into usable outputs and recycling them within the environment.

The main effectiveness criteria for the hierarchy culture is efficiency, timeliness and smooth functioning and for a market culture it would be market share, goal achievement and beating competitors.

In terms of the management theory, for a hierarchy culture type control fosters efficiency and for a market culture type competition fosters productivity.

4.3.2 Discrepancies between the present and the preferred culture

From Figure 9, it is clear that current hierarchy type culture needs to be changed to reflect a market dominant culture. To effectively change from the hierarchy culture to the market culture the management style, strategic plans, climate rewards systems, leadership and basic values of the organisation may need to change.

	Present Culture Mean Score	Preferred Culture Mean Score	Discrepancy
A	31.70	22.32	-9.38
B	13.43	23.61	+10.18
C	16.11	30.50	+14.39
D	38.77	23.61	-15.16

Table 7: Discrepancies between the average overall results of the present and the preferred organisational culture within the School of Process and Mechanical Engineering.

From Table 7, it is evident that the School of Process and Mechanical would prefer the dominant culture to be a market type culture. In

addition, the School would need to move from a dominant hierarchical culture towards a market type culture, and from a clan culture towards an adhocracy culture as reflected by the Figure 9. From Table 7 it can be interpreted that the clan culture and the hierarchical culture needs to be de-emphasized and greater emphasis needs to be placed on the market and adhocracy cultures in order to foster an environment that could lead to a highly productive and efficient functioning School.

The market culture could be emphasized by:

- motivating staff members utilizing financial incentives,
- ensuring that staff members are constantly aware of the key outputs of the School,
- ensuring staff member are aware of the negative impact of not attaining their goals, and
- ensuring that the material offered by the School of Process and Mechanical Engineering is constantly reviewed by the market in terms of its relevance and applicability,

The hierarchy culture could be de-emphasized by:

- eliminating procedures and rules that are no longer applicable,
- eliminating paperwork and unnecessary reports,
- shifting more responsibilities towards the staff members, and
- reducing the structure to represent a flatter structure.

However, in order to initiate cultural change requires the support and commitment from all members within the School of Process and Mechanical Engineering. Furthermore, a plan needs to be drafted. Schein (1987), defined change as the induction of new patterns of action, beliefs,

and attitudes among substantial segments of a population. Having diagnosed the current and preferred culture within the School of Process and Mechanical Engineering, and assessed the implication of the discrepancy between the current and preferred culture, the next step is to formulate specific actions to be taken to foster the desired change. Deal and Kennedy (1992), provide five suggestions for effective cultural transformation:

- recognize that peer group consensus is the major influence on acceptance or a willingness to change,
- convey and emphasize two way trust in all matters, especially communication, related to change,
- think of change as skill building and concentrate on training as part of the change process,
- allow enough time for the change to take hold, and
- encourage people to adapt to the basic idea for the change to fit the world around them.

At the present moment, Technikon Witwatersrand is making gradual changes in terms of its structural profile, its vision and systems, which indicate that it has recognised that in light of its changing environment, the merger with Rand Afrikaans University and Vista University, it needs to undergo transformation. The objective of this study was to determine the organisational culture that exists within the School of Process and Mechanical Engineering. The Head of the School of Process and Mechanical Engineering has been made aware of the results of this study. The way forward from this point is for the senior management and employees to formulate a plan to initiate cultural transformation.

4.3.3 Strength of the Cultural Type

According to Cameron and Quinn (1999), the number of points awarded to a specific culture type determines the strength of the culture. The higher the score, the stronger or more dominant is that particular cultural type. From Table 6, the School of Process and Mechanical Engineering currently exhibits a strong hierarchical culture. This is in agreement with the Technikon Witwatersrand structure, which has a tall structure, numerous rules and policies that dictates its actions, and offers employees secure employment.

4.3.4 Congruence of Cultural Dimensions

Cultural congruence means that various aspects of an organisation's culture are aligned with its overall culture. Cultural congruence refers to reliability of a particular question/characteristic in terms of the overall average score for a particular cultural type. Cultural congruence is accomplished by visually comparing the individual graph for a particular question against the overall culture type graph, Figure 9, and by calculating the absolute difference between the overall mean score and a particular question's mean score. This is applied to both the present and preferred scenarios. Having all aspects of the organisation clear about and focused on the same values and sharing the same assumptions simply eliminates many of the complications and removes obstacles that can get in the way of effective performance (Cameron and Quinn, 1999).

Cultural incongruence often leads to a difference in perspectives, differences in goals and differences in strategies within the organisation. These in turn, sap the energy and the focus of organisational members. Incongruence in the long run inhibits the organisation's ability to perform at the highest levels of effectiveness (Cameron and Quinn, 1999).

In order to assess the congruence of the organisation's cultural dimensions individual cultural profiles were plotted for the six cultural dimensions assessed by the OCAI. The results of these dimensions can be seen in Appendix 2.

4.3.4.1 Congruence of Question 1: Organisational Characteristics

The organisational current and future culture profile plotted for Question 1, which related to the organisation's characteristics can be seen in Figure 10.

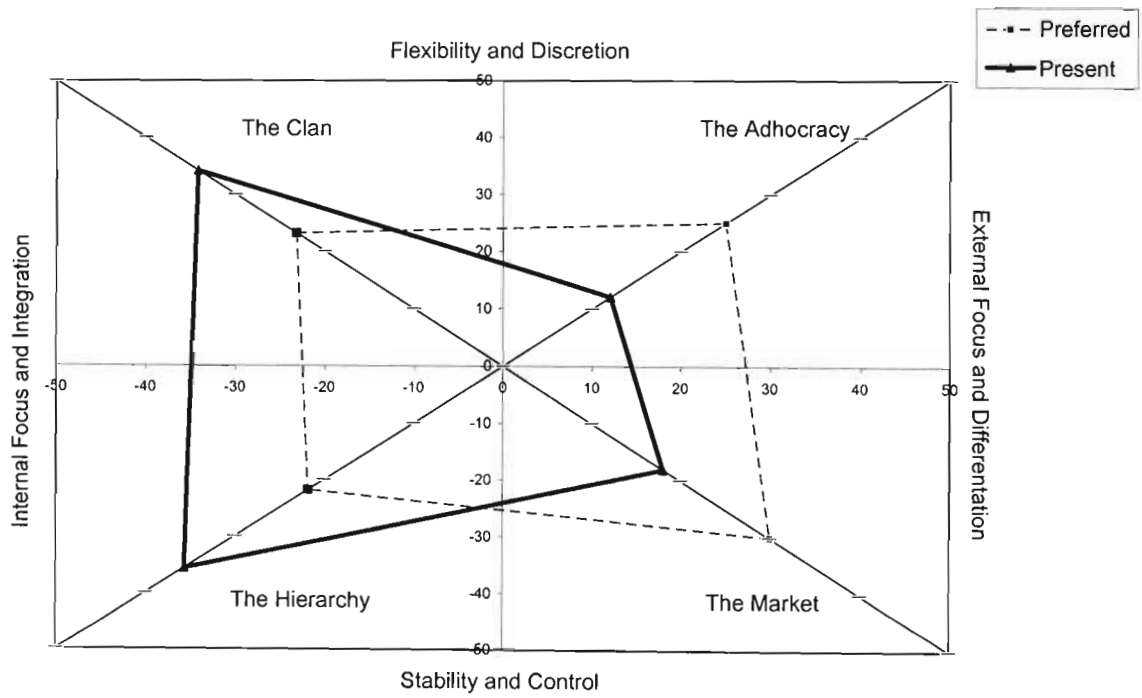


Figure 10: Organisational Characteristic Profile of the Schools of Process and Mechanical Engineering.

In assessing cultural congruence, one needs to compare the average results obtained for a particular question with the average overall results. This needs to be applied to both the current and preferred culture. A

comparison of Figure 10 and Figure 9 would allow large discrepancies to be visible, where it is clear that Figure 9 does differ slightly from Figure 10. Table 8 allows for a more accurate comparison as one is able to view the extent of the discrepancy by calculating the absolute difference between Question 1 mean scores and the overall average culture mean scores.

	Overall Present Culture Mean Scores	Question 1 Present Culture Mean Scores	Absolute Difference	Overall Preferred Culture Mean Scores	Question 1 Preferred Culture Mean Scores	Absolute Difference
A	31.70	34.17	2.47	22.32	23.17	0.85
B	13.43	12.10	1.33	23.61	25.03	1.42
C	16.11	18.07	1.96	30.50	30.00	0.50
D	38.77	35.67	3.10	23.61	21.80	1.81

Table 8: Congruence of the overall current and preferred culture with the Organisation's Characteristic (Question 1)

In terms of the current culture, the statement that respondents rated the highest was "The School is a very controlled and structured place. Formal procedures generally govern what people do" (Appendix 1). This is alternative D for question 1 of the OCAI and was allocated an average of 35.67 (Table 8) by the respondents. This is a trait of the hierarchy type culture and is congruent with the overall culture type, which is the hierarchy type culture.

In terms of the preferred culture the statement rated the highest was, "The School is very results orientated. A major concern is with getting the job done. People are very competitive and results orientated" (Appendix 1). This is alternative C for Question 1 of the OCAI and was allocated an average of 30.50 points (Table 8). This is a trait of the market type culture and is congruent with the preferred overall organisational culture.

According to Cameron and Quinn (1999) a discrepancy of greater than 10 points indicates incongruence. From Table 8, the largest absolute difference for the current culture is 3.10 and for the preferred culture it is 1.81. Hence, from Table 8, and a comparison of Graphs 9 and 10, it can be concluded that the overall organisation's culture and the organisation's characteristics are aligned for both the current and preferred cultures.

4.3.4.2 Congruence of Question 2: Organisational Leader

Figure 11 depicts the profile plotted for Question 2, which related to the organisation's leader. Comparison of the Organisation's Leader profile (Figure 11) with the overall organisation's culture (Figure 9) indicates that the organisation's leader profile is congruent with the overall organisation's culture. The statement "The leadership in the School is generally considered to exemplify co-ordinating, organizing or smooth running efficiency" received the highest points, which corresponds to the current hierarchical type culture. In terms of the preferred cultural, the statement "The leadership in the School is generally considered to exemplify a no nonsense, aggressive, result orientated focus" received the highest rating indicating the congruence with the overall preferred market culture.

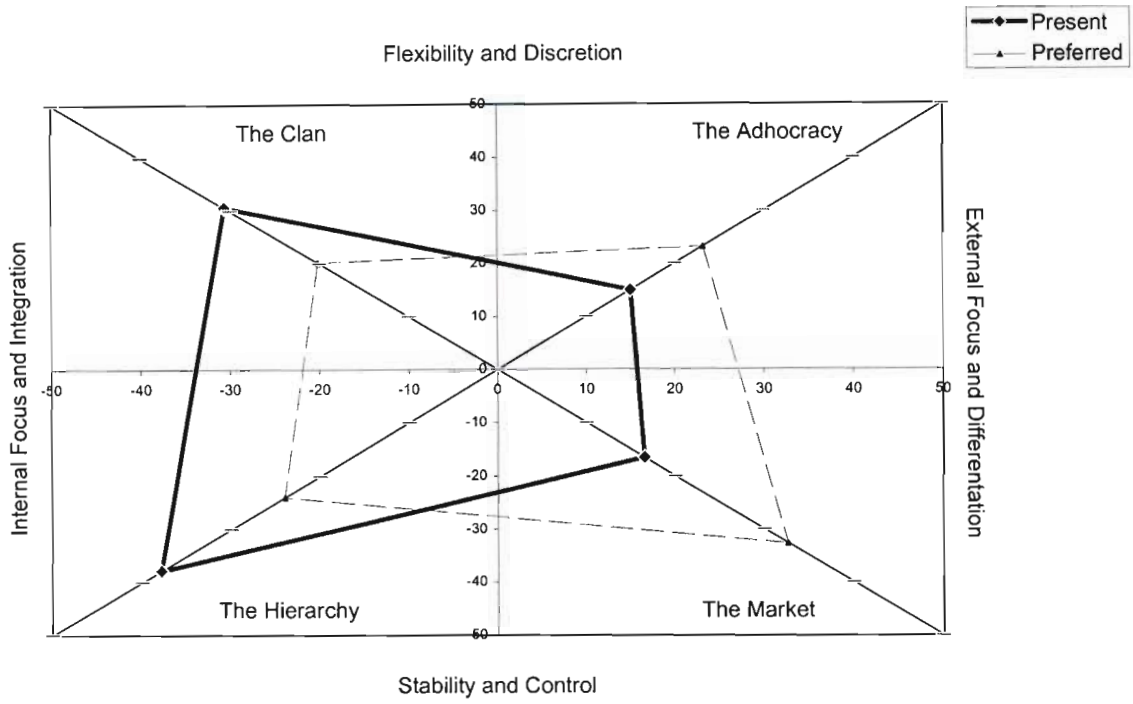


Figure 11: Organisational Leader Profile of the School of Process and Mechanical Engineering.

	Overall Present Culture Mean Scores	Question 2 Present Culture Mean Scores	Absolute Difference	Overall Preferred Culture Mean Scores	Question 2 Preferred Culture Mean Scores	Absolute Difference
A	31.70	30.63	1.07	22.32	20.20	2.12
B	13.43	15.0	1.57	23.61	23.20	0.41
C	16.11	16.53	0.42	30.50	32.63	2.13
D	38.77	37.83	0.94	23.61	23.97	0.36

Table 9: Congruence of the overall current and preferred culture with the Organisation's Leader (Question 2)

This also indicates the type of leadership that the respondents would like to obtain in order for the School of Process and Mechanical Engineering to be a successful entity. Table 9 concluded that Question 2, which relates to the organisation's leadership, and the overall organisation's culture in terms of the current and preferred situation are congruent due to the absolute difference for the present and the preferred culture being less than ten.

4.3.4.3 Congruence of Question 3: Management of Employees

Question 3 is related to the management style and the profile is plotted in Figure 12.

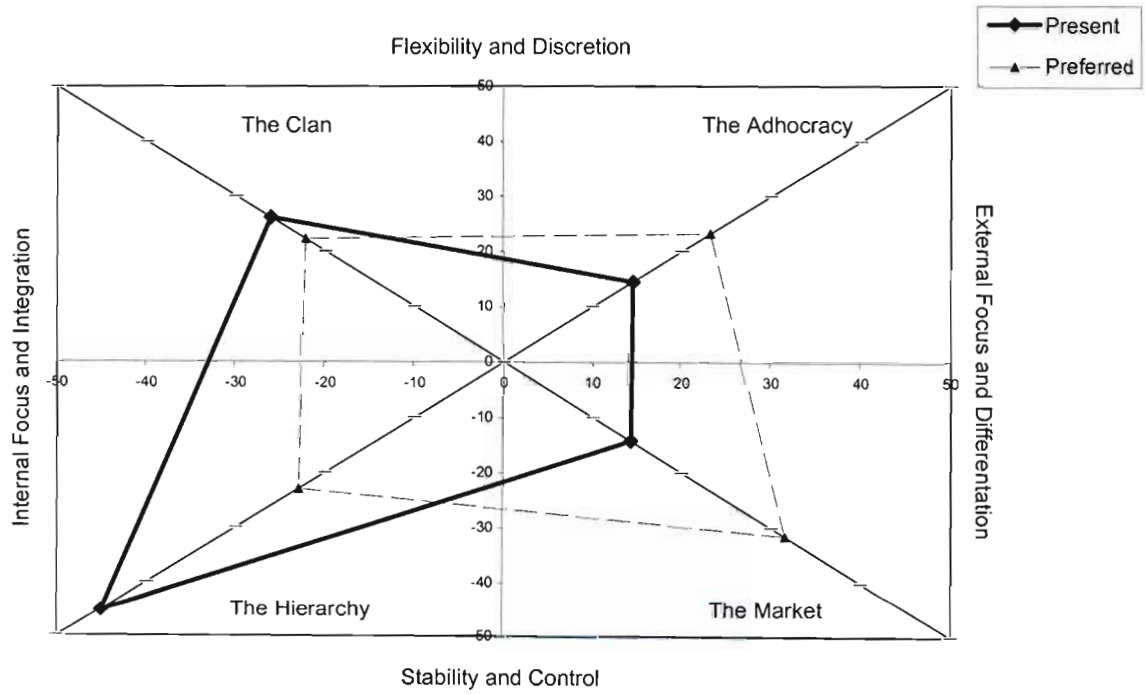


Figure 12: Management of Employees Profile for the School of Process and Mechanical Engineering.

Figure 12 indicates that the statement that received the highest number of points is "The management style in the School is characterised by

security of employment, conformity, predictability, and stability in relationship" which is congruent with the overall current hierarchical culture. A comparison of Figure 12 with Figure 9 indicates the strength of the security of employment found within the School of Process and Mechanical Engineering. From Table 10, it can be concluded that the current culture is congruent with the management characteristic of employees as the absolute difference for option D between the present culture and Question 3 is less than 10.

In terms of the preferred culture from Table 10 and a comparison of Figure 12 with Figure 9 concludes that there is congruence amongst the two. The option that received the highest number of points was "The management style is characterised by hard-driving competitiveness, high demands and achievement" which is congruent with the preferred market culture.

	Overall Present Culture Mean Scores	Question 3 Present Culture Mean Scores	Absolute Difference	Overall Preferred Culture Mean Scores	Question 3 Preferred Culture Mean Scores	Absolute Difference
A	31.70	26.13	5.57	22.32	22.27	0.05
B	13.43	14.50	1.07	23.61	23.20	0.41
C	16.11	14.27	1.84	30.50	31.53	1.03
D	38.77	45.10	6.33	23.61	23.00	0.61

Table 10: Congruence of the overall current and preferred culture with the management of employees (Question 3)

4.3.4.4 Congruence of Question 4: Organisational Glue

The options in Questions 4 related to the values required to ensure that the organisation is efficient and effective. Figure 13 depicts the organisational glue profile.

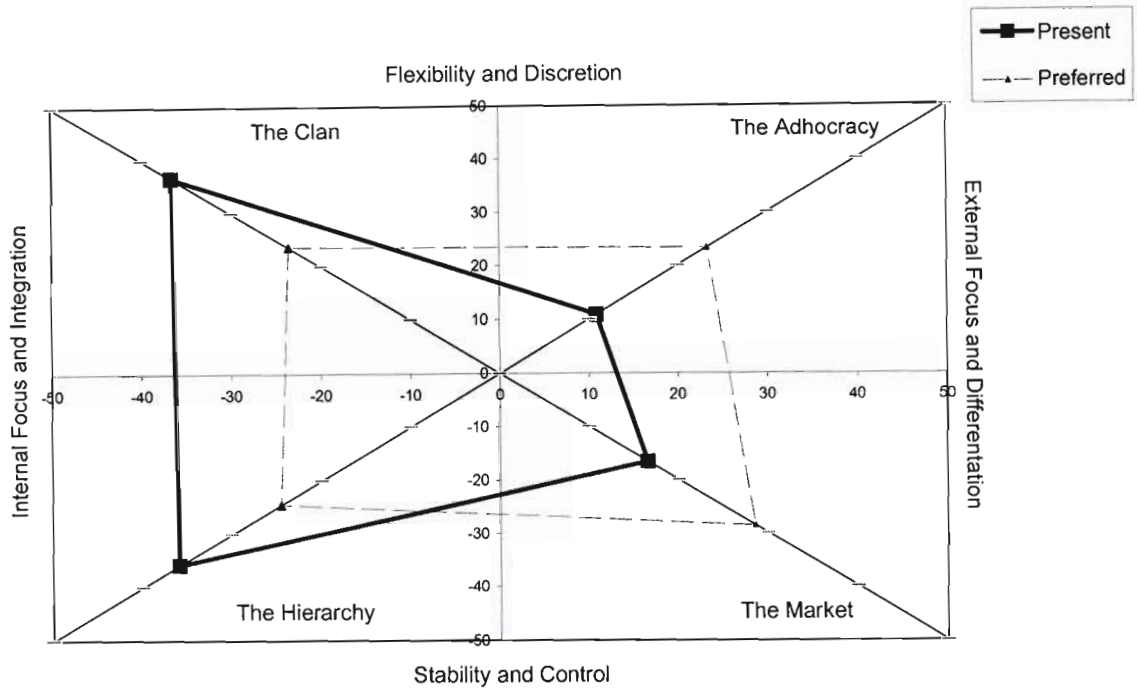


Figure 13: The organisational glue profile of the School of Process and Mechanical Engineering.

With respect to the current organisational glue profile, the statement that received the highest number of points was "The glue that holds the School together is loyalty and mutual trust. Commitment to this School runs high." Whilst this statement is not congruent with the current hierarchical culture, it is congruent with the second dominant culture within the School of Process and Mechanical Engineering, namely the Clan culture. From Table 11, it can be concluded that the organisation

glue profile is congruent with the overall current culture as the absolute difference for the current culture is less than ten points.

	Overall Present Culture Mean Scores	Question 4 Present Culture Mean Scores	Absolute Difference	Overall Preferred Culture Mean Scores	Question 4 Preferred Culture Mean Scores	Absolute Difference
A	31.70	36.67	4.97	22.32	23.57	1.25
B	13.43	10.87	2.56	23.61	23.30	0.31
C	16.11	16.57	0.46	30.50	28.60	1.90
D	38.77	35.90	2.87	23.61	24.53	0.92

Table 11: Congruence of the overall current and preferred culture with the organisational glue (Question 4)

With respect to the preferred culture, the statement that received the highest number of points was "The glue that holds the School together is the emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes" which is a trait of the market culture hence proving the congruence between the preferred market culture and Question 4.

4.3.4.5 Congruence of Question 5: Strategic Emphasis

Question 5 related to the strategic emphasis of the School of Process and Mechanical Engineering and Figure 14 depicts its profile.

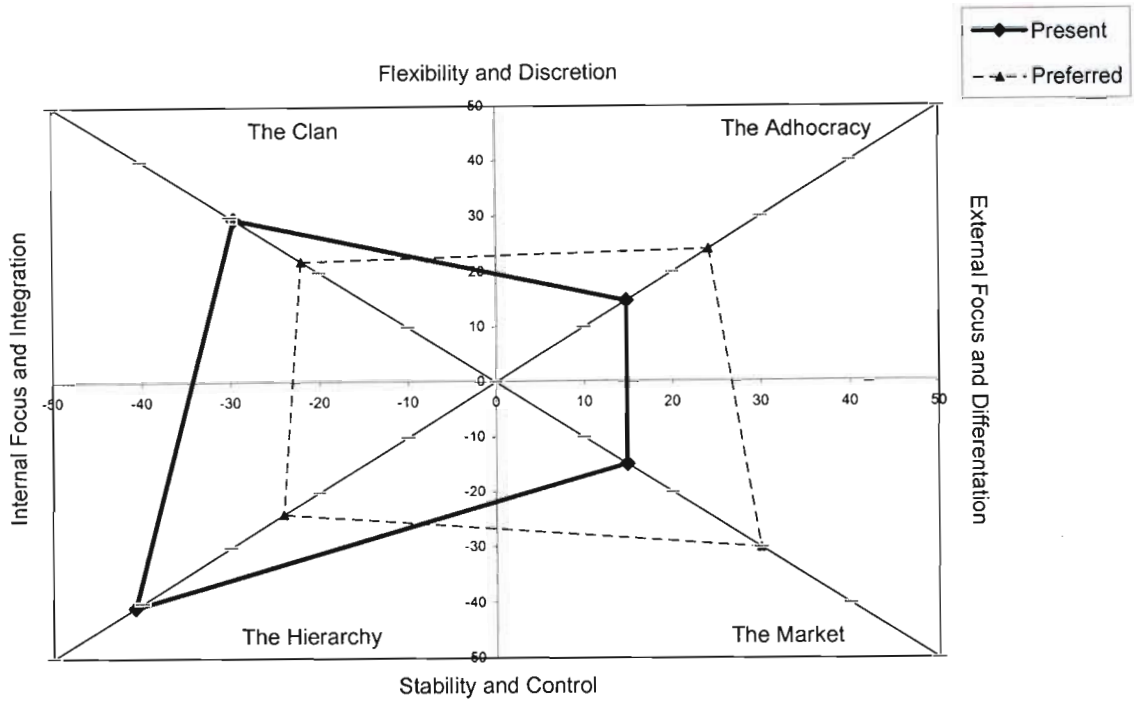


Figure 14: The strategic emphasis of the School of Process and Mechanical Engineering.

A comparison of Figure 14 with Figure 9 indicates cultural congruence between the strategic emphasis and the overall current and preferred culture. The statement that received the highest number of points was "The School emphasises permanence and stability. Efficiency, control and smooth operations are important" which is congruent with the current overall hierarchy culture. In terms of congruence between the preferred market culture and the strategic emphasis, the statement "The School emphasises competitive actions and achievement. Hitting stretch targets and winning in the market place are dominant" received the highest number of points, indicating congruence. In addition, Table 12 indicates that there are no discrepancies greater than 10 points.

	Overall Present Culture Mean Scores	Question 4 Present Culture Mean Scores	Absolute Difference	Overall Preferred Culture Mean Scores	Question 5 Preferred Culture Mean Scores	Absolute Difference
A	31.70	29.57	2.13	22.32	22.00	0.32
B	13.43	14.80	1.37	23.61	24.13	0.52
C	16.11	14.87	1.24	30.50	30.00	0.50
D	38.77	40.77	2.00	23.61	23.87	0.26

Table 12: Congruence of the overall current and preferred culture with the strategic emphasis (Question 5)

4.3.4.6 Congruence of Question 6: Criteria of Success

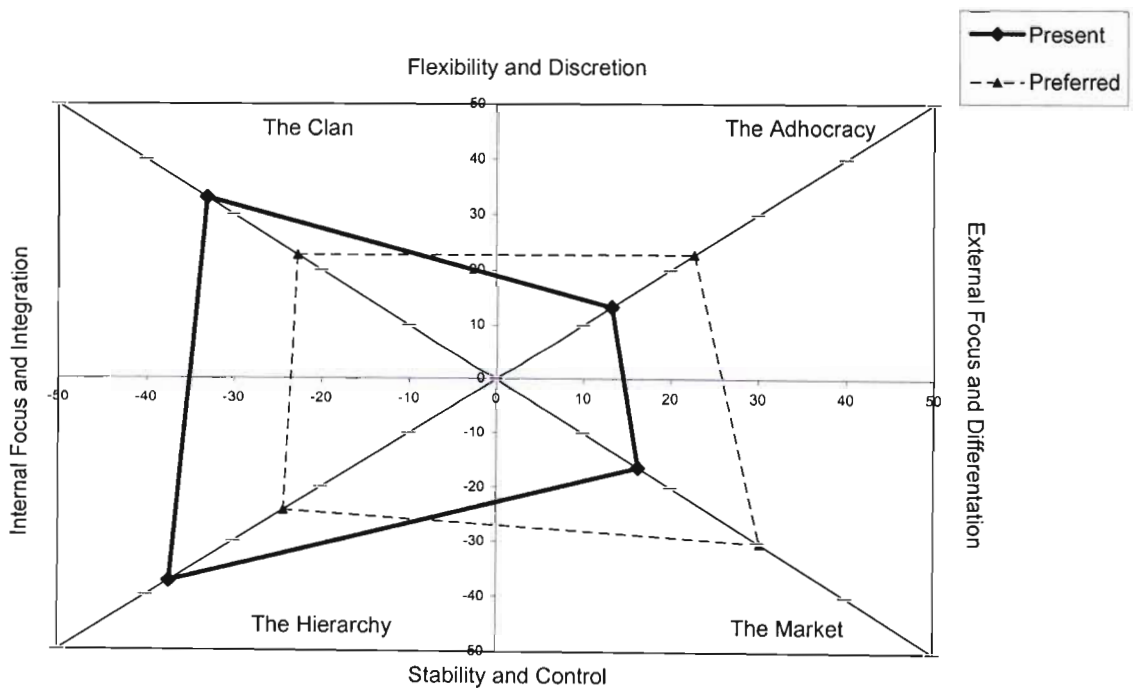


Figure 15: Present and preferred criteria of success for the School of Process and Mechanical Engineering.

Figure 15 depicts the profile for current and preferred criteria for success. The statement "The School defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low cost production are critical" receives the highest number of points, which is a characteristic of present hierarchy culture. In terms of the congruence between the preferred market culture and the criteria of success, the statement "The School defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key" received the highest number of points. Table 13 further concluded that congruence between the present and preferred overall organisational cultures and the criteria for success does exist.

	Overall Present Culture Mean Scores	Question 6 Present Culture Mean Scores	Absolute Difference	Overall Preferred Culture Mean Scores	Question 6 Preferred Culture Mean Scores	Absolute Difference
A	31.70	33.03	1.33	22.32	22.70	0.38
B	13.43	13.30	0.13	23.61	22.77	0.84
C	16.11	16.33	0.22	30.50	30.23	0.27
D	38.77	37.33	1.44	23.61	24.30	0.69

Table 13: Congruence of the overall current and preferred culture with the criteria of success (Question 6)

4.3.5 Norms Comparison

Cameron and Quinn (1999) provided a profile of the average culture plot of the over one thousand organisations studied. Figure 14 indicates that

the preferred cultural profile leans towards the average cultural plot. The most dominant culture in the average cultural plot is the market culture, followed by the hierarchy culture, then clan culture and lastly the adhocracy culture.

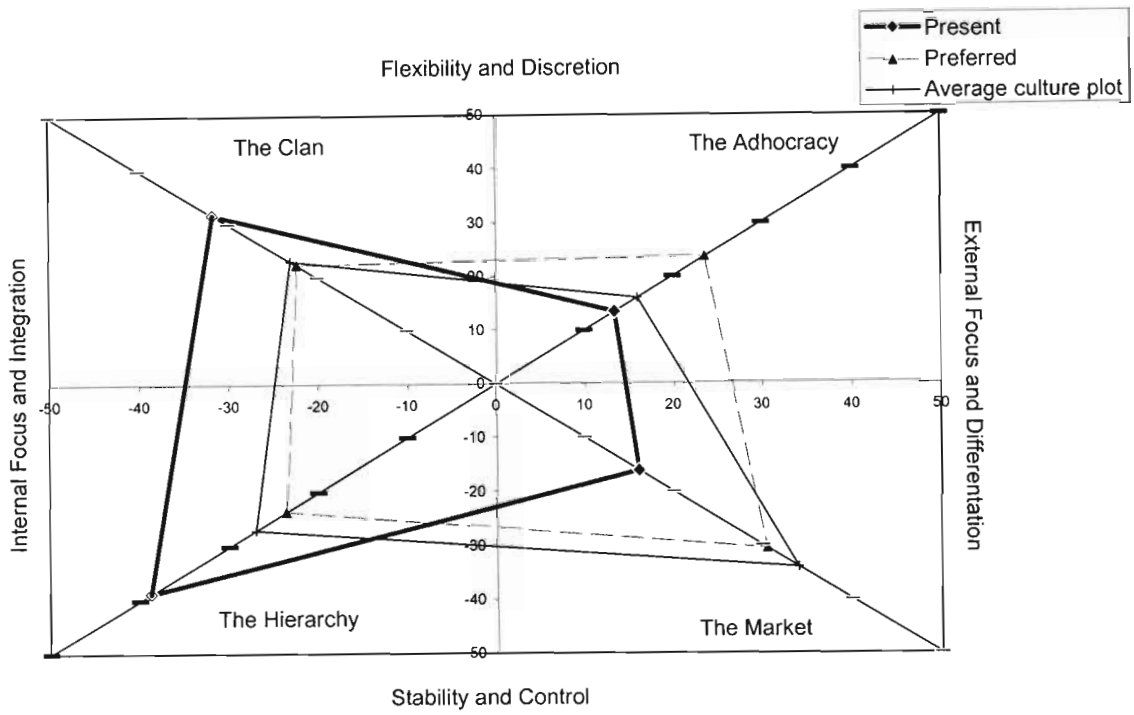


Figure 16: Comparison of the present and preferred cultures of the School of Process and Mechanical Engineering with the average culture plot of 1000 organisations.

The present cultural profile is vastly different from the average cultural plot, which could be an indication that the present culture does not map the environmental demands, that undue emphasis is placed on certain areas, or there is a mismatch present with the industry's environment. On the positive side, it could mean that the organisation has a unique competitive advantage (Cameron and Quinn, 1999). However, the preferred market culture is most dominant, followed by the adhocracy culture, then hierarchy culture and lastly the clan culture. This indicates

that respondents are aware of the possible mismatch between the present culture and its environment and hence would prefer to move towards a market culture.

4.3.6 Trends in Organisational Cultural Types

Cameron and Quinn (1999) in their study of more than one thousand organisations observed the following trends, which are applicable to the current study.

4.3.6.1 Trend 1

Cameron and Quinn (1999) observed that fewer firms are dominated by the adhocracy culture than are dominated by each of the other three culture types, which was the trend in the current study.

4.3.6.2 Trend 2

Cameron and Quinn (1999) observed that organisations tended to gravitate towards an emphasis on the hierarchy and market type culture. In the current study, the dominant current culture is the hierarchy culture and the preferred culture is the market culture.

4.3.6.3 Trend 3

According to Cameron and Quinn (1999), paradoxes often exist in cultural profiles, in that an organisation may simultaneously emphasize for example the clan culture and the market culture. In such cases, it may be a sign of weakness or strength.

In the case of both the present and preferred cultural profiles of the School of Process and Mechanical Engineering, this was not observed. In terms of the current organisational culture, the dominant culture was the

hierarchy type culture and the second dominant culture is the clan type clan. The School of Process and Mechanical Engineering currently emphasises internal focus and integration.

4.4 Summary

It was determined that the School of Process and Mechanical Engineering currently exhibits a dominant hierarchy type culture and would in the future prefer to be dominated by a market type culture. The hierarchy type culture is characterised by formal rules and policies and focuses on internal maintenance with a need for stability and control. The market type culture focuses on external focus and differentiation with a need for stability and control. It was further shown that cultural congruence existed between the overall organisational cultural and the six cultural attributes. A norms comparison indicated that whilst the current organisational culture differs from the average culture plot of over a 100 organisations, the preferred organisational culture does resemble the average culture plot. The analysis was concluded with an observation of similar trends that exists between the current study and the study provided by Cameron and Quinn (1999).

CHAPTER 5

Conclusion and Recommendations

5.1 Conclusions

The three research objectives of this study were:

1. To review existing models available for assessing organisational culture,

2. To determine the organisational culture of the School of Process and Mechanical Engineering, and

3. To provide feedback to line management regarding the current and preferred organisational culture.

The first objective was achieved by means of a literature survey. It was concluded that a vast array of definitions and meanings exists for the term organisational culture. Schein's (1985) definition of organisational 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" was found to be acceptable. From the literature survey, it was found that many dimensions describe organisational culture and these dimensions have to be used as part of a framework in order to assess the organisational culture. Of the models/frameworks reviewed, it was concluded that the Competing Values Framework was the most comprehensive and user-friendly model to determine the organisational culture of the School of Process and Mechanical Engineering.

The second objective was to determine the organisational culture of the School of Process and Mechanical Engineering. This objective was achieved by using the Organisational Culture Assessment Instrument, which is based on the Competing Values Framework. The Organisational Culture Assessment Instrument enabled the current as well as the preferred organisational culture to be diagnosed. It was found that the current dominant organisational culture was the hierarchy culture, which focuses on internal control and stability. The preferred culture is the market type culture, which focuses on innovation and risk-taking.

The last objective was achieved by making the line management aware of the results of this study. In addition, Section 5.2 highlights some of the recommendations provided to line management to facilitate the transformation from a hierarchy dominant culture towards a market dominant culture. Given the changes in the Technikon Witwatersrand external environment and its new strategy, it was noted that there is a private consulting group in the process of initiating change. Thus far, the consultants have met with senior management to review its strategy and performance appraisal systems.

5.2 Recommendations

According to Cameron and Quinn (1999), managers often know where they want to go to but do not know where to begin. Cameron and Quinn (1999) suggests that to transform an organisational culture from a dominant hierarchy type culture to a dominant market type culture, four sections be reviewed. The first section being the changes that concern the entire organisation as a whole, the second section is the changes to managing competitiveness; the third section is the changes to energizing employees, and lastly changes to managing customer service.

5.2.1 Organisational Changes

- The vision, values, goals, and objectives needs to be reviewed at the management level.
- Greater emphasis need to be placed on the relevancy of the material delivered to the consumer. This can be achieved by holding bi-annual workshops between the relevant departments and its associated industry.
- Increase contact with the market, via media or personal contact, to increase market share. At present, the Technikon Witwatersrand does hold bi-annually an "Open Day" whereby it invites potential students and companies to the Technikon.
- Globalize the programs offered at the Technikon. Currently the Technikon Witwatersrand offers its courses on a full-time basis to its consumers. It is recommended that in order to increase its consumer levels, courses could be offered on a part-time basis and alternatively on a distance learning basis.

5.2.2 Managing Competitiveness

- One of the new goals of Technikon Witwatersrand is for each School to be self-sustaining. This requires that the School of Process and Mechanical Engineering needs to obtain at least 20 % of its budget from consulting work. At the present stage, consulting work is carried out in a private capacity. In order for the Technikon to obtain a portion of these private earnings, it could offer staff members the necessary infrastructure to support them in obtaining and conducting such consulting work.
- Invite the various stakeholders to conduct a Strengths, Weakness, Opportunities and Threats analysis on a yearly basis.

- Identify and eliminate areas where bottlenecks exist. It was noted that within three months the academic staff would be taught to use a Management Information System to streamline the process of capturing test and exam marks.
- Conduct staff appraisals on a bi-annual basis. At present, there is no review of an academic staff member's performance.
- Create a culture of competitiveness. This could be done by within each school; the best lecturer and/or the staff member that has obtained each goal well above expectations could be recognised for their performance.
- On a School and institutional level, benchmark the best practices against other academic institutions. This can be achieved using the review from the Engineering Council of South Africa, which audits every engineering school throughout South Africa.

5.2.3 Energizing Employees

- Establish an incentive scheme, which includes monetary and non-monetary rewards.
- Minimise the time lag between staff member's performance and the feedback they receive.
- Encourage aggressiveness and achievement amongst staff members in the form of internal competitions. It was further noted that this suggestion is taking place by on a School level in terms of the Open Day competition.
- Establish "SMART" goals with the subordinates – Specific, Measurable, Aligned to the organisation's mission, Reachable but still a stretch, and Time bound (Cameron and Quinn, 1999).

- Ensure that managers make themselves visible and accessible at all times.
- Managers need to maintain a positive attitude around employees. According to Cameron and Quinn (1999), positive energy in the organisation is highly dependant on the personal mood and behaviour of the leader.

5.2.4 Managing Customer Service

- Conduct a bi-annual review of academic staff in terms of the students review and management review.
- Encourage customer contact with respect to industry and students. Ensure sufficient time is allocated for student consultation.
- Introduce a complaints box at each School. This information would assist in students being able to remain anonymous and could only serve to enhance the quality of the School.

This study indicated that there was a distinct mismatch between the present and preferred cultures within the School of Process and Mechanical Engineering. This aspect needs to be taken into account in the change management process initiated to generate an effective merger between Technikon Witwatersrand, Rand Afrikaans University and Vista University. A further study embracing a wider population of academics from the various institutions could be carried out to ascertain the consensus in preferred cultures and the existing differences between schools.

References

1. Allen, R.F., Kraft, C. (1982), *The Organisational Unconscious*, Englewood Cliffs, Prentice Hall: New York.
2. Athos, A.G., Pascale, R.T. (1981), *The Art of Japanese Management*, Warner Books: New York
3. Alvesson, M. (2002), *Understanding Organisational Culture*, Sage Publications.
4. Brown, A.D. (1998), *Organisational Culture*, Financial Times Pitman Publishers: London
5. Burke, W.W. (1994), *Organisation Development: A Process of Learning and Changing*, 2nd edition, Addison-Wesley
6. Cameron, K.S. (2003), Assistance regarding Diagnosing Organisational Culture, Electronic Mail Conversation.
7. Cameron, K.S. Quinn R.E. (1999), *Diagnosing and Changing Organisational Culture: Based on Competing Values Framework*, Addison-Wesley: USA
8. Chandler, G.N. (2000), Unravelling the Determinants and Consequences of Innovation-Supportive Organisational Culture, *Entrepreneurship: Theory and Practice*, 25:1, 59-77
9. Cherrington, D.J. (1994), *Organisational Behaviour*, 2nd edition, Allyn and Bacon:USA
10. Cooper, A.E. (1994), *BPR and Organisational Change*, Master Thesis, Henley Management College,
11. Cooper, D.R., Schindler, P.S. (2001), *Business Research Methods*, 7th edition, McGraw-Hill, New York
12. Cooper, L.C., Cartwright, S., Earley, C.P. (2001),*The International Handbook of Organisational Culture and Climate*, John Wiley and Sons: England

13. Dawson, S. (1996), Analysing *organisations,* Basingstoke: Macmillan.

14. Deal, T., Kennedy, A. (1982), *Corporate Cultures: The Rites and Rituals of Corporate Life*, Addison-Wesley: Reading M.A

15. Drennan, D.R. (1992), *Transforming Company Culture: Getting your company from where you are now to where you want to be*, McGraw-Hill: London

16. Flanagan, P. (1995), The ABC's of Changing Corporate Culture, *Management Review*, 84(3):57-61, Jul.

17. Gous, M. (2002), *The Role of Organisational Culture in Higher Education Leadership and Management with Special reference to Technikon Witwatersrand*, Doctoral thesis, June 2002, Johannesburg: Rand Afrikaans University

18. Harrison, R. (1993), *Diagnosing Organisational culture: Trainer's Manual*, Pfeiffer and Company: Amsterdam.

19. Johnston, H. (1995), *Social Movements and Cultures*, UCL Press: London

20. Joyner, J. (2001), Corporate Culture defines Success, *Computing Canada*, 27:11, 26.

21. Kilmann, R.H., Saxton, M.J. (1983), *The Kilmann-Saxton Culture-Gap Survey*, Organisational Design Consultants, Pittsburg.

22. Kotter, J.P., Heskett, J.L. (1992), *Corporate Culture and Performance*, New York: Free Press

23. Kraut, A.I. (1996), *Organisational Surveys: Tools for Assessment and Change*, Jossey-Bass Publishers: San Francisco

24. Kreitner, R., Kinicki A. (1995), *Organisational Behaviour*, 3rd edition, Richard D Irwin Inc: U.S.A.

25. Lewis, B. (2001), Survival Guide: Not beyond influence, *InfoWorld*, 23(45):50, Nov.

26. Louis Carter, David Giber, Marshall Goldsmith (2001), *Best Practices in Organisational Development and Change*, Jossey-Bass/Pfeiffer: San Francisco.

27. Lundberg, C. (1990), Surfacing Organisational Culture, *Journal of Managerial Psychology*, Vol.5, Issue 4, pg 19

28. Mallak, L. (2001), Understanding and Changing your Organisation's Culture, *Industrial Management*, 43:2, 18-25

29. Martin, J. (2001), *Organisational Behaviour*, 2nd edition, Thompson Learning.

30. Moorhead, G, Griffin, R.W. (1995), *Organisational Behaviour: Managing People and Organisations*, 4th edition, Houghton Mifflin Company: Boston.

31. Mullins, L.J. (2002), *Management and Organisational Behaviour*, 6th edition, Prentice Hall.

32. Mohan, L.M. (1993), *Organisational communication and cultural vision*, Albany State University of New York Press

33. Nadler, D.A.J., Hackman, R., Lawler, E. (1979), *Managing Organisational Behaviour*, Brown: Boston

34. Narayanan, V.K., Nath, R. (1993), *Organisation theory: a strategic approach*, Richard D. Irwin: U.S.A.

35. Parker, R., Bradley, L. (2001), Organisational Culture in the Public Sector: Evidence from Six Organisations, *The International Journal of Public Sector Management*, Vol. 13, Issue 2, page 125

36. Pierce, J.A, Robinson R.B. (1997), *Strategic Management: Formulation, Implementation and Control*, Irwin.

37. Pheysey, C.D. (1993), *Organisational Cultures: Types and Transformations*, Routledge: London

38. Robbins, S.P. (1998), *Organisational Behaviour: Concepts, Controversies and Application*, 8th edition, Prentice-Hall: New Jersey.

39. Robbins, S.P. (2001), *Fundamentals of Management*, 3rd edition, Prentice Hall: New Jersey

40. Ruin, J.E. (2001), *Positive Organisational Culture* (Online), Available at http:www.adtimes.nstp.com.my/jobstory/2001/apr14b.html, Accessed 20 January 2003.

41. Sankar, Y. (1988), Organisational Culture and new Technologies, *Journal of System Management*, 39:4,10-17.

42. Schein, E. (1999), *The Corporate Culture: Survival Guide*, 1st edition , Jossey-Bass Publishers: San Francisco

43. Schein, E. (1992), *Organisational Culture and Leadership*, 2nd edition, Jossey-Bass Publishers: San Francisco

44. Schein, E. (1985), *Organisational Culture and Leadership*, Jossey-Bass Publishers: San Franciso.

45. Schultz, M. (1995), *On Studying Organisational Cultures*., Walter de Gruyter & Co: Berlin

46. Schwartz, H., Davis, S.M. (1981), Matching Corporate Culture and Business Strategy, *Organisational Dynamics*, Summer, 30-48

47. Seel, R. (2000), *Culture and Complexity: New Insights on Organisational Change* (Online), Available at http:www.new-paradigm.co.uk/culture-complex.html, Accessed 20 January 2003

48. Struwig, F.W., Smith, E.E. (2002), The relationship between Organisational Culture and Strategy Formulation in South African Firms, *South African Journal of Business Management*, Vol. 33, Issue 2, page 21

49. Technikon Witwatersrand (TWR) (2002), Technikon Witwatersrand, http://www.twr.ac.za ,Accessed 25 October 2002

50. Tucker, R.W., Walt M.J., Linda C.E. (1990), Can Questionnaires Objectively Assess Organisational Culture, *Journal of Managerial Psychology*, Vol 5, Issue 4, page 4.

51. Van Maanen, J., Barley, S.R. (1983), *Cultural Organisations: Fragments of a theory*, Working Paper, MIT.

APPENDIX I

THE E-MAIL CONTAINING INSTRUCTIONS FOR COMPLETING THE QUESTIONAIRE AND THE RESEARCH INSTRUMENT, OCAI

From: Dheena Govender [mailto:dheegove@mail.twr.ac.za]

Sent: 23 January 2003 03:57

To: proc.mech@mail.twr.ac.za

Subject: FW: Evaluating the Organisational Culture within the School of Mechanical, Process and Industrial Engineering

Good day

I am conducting a survey to assess the organisational culture that exists within our School of Process and Mechanical Engineering using a diagnostic tool called Organisational Culture Assessment Instrument(OCAI) as developed by K.S. Cameron and R. Quinn.

I would greatly appreciate if you would fill out the attached spreadsheet and return it to me via e-mail/hardcopy.

Organisational Culture Assessment Instrument (OCAI):

The purpose of OCAI is to assess six key dimensions of organisational culture. In completing the instrument you will be providing a picture of how our School operates and the values that characterize it. There is no right or wrong answers for these questions just as there exists no right or wrong culture. Therefore, please be as accurate as you can in responding to the questions so that an accurate profile could be drawn.

Instructions:

1. There are six questions. Each question has four alternatives. Divide 100 points amongst the 4 alternatives depending on the extent to which each alternative is similar to our School.

Give higher number of points to the alternative that is most similar to our School. Eg in question 1, if you think "A" is similar to our School, "B" and "C" are somewhat similar and "D" is hardly applicable then you might give 55 point to A, 20 point to B and C, and 5 point to D. Please ensure that the total equals 100 points for each question.

2. This above procedure applies to both the "NOW " and "PREFERRED" section.
3. In the "NOW" column rate the alternatives as the situation currently/presently exists.
4. In the "PREFERRED" column rate the same alternatives as you think it should be in order to be highly successful.

Thank you very much for your co-operation. The confidentiality of the completed questionnaires is assured, however should you not feel comfortable e-mailing the completed questionnaire, please print it and put in either in my mailbox or underneath my door. Once I have completed the dissertation, I will brief the School on the results obtained.

Thanking you,

Dheena Govender

The Organizational Culture Assesment Instrument (Cameron K.S. and Quinn R.E.)

	1. Dominant Characteristics	**Now**	**Preferred**
A	The School is a very personal place. It is like an extended family. People seem to share a lot of themselves	25	25
B	The School is a very dynamic and entrepreneurial place. People are willing to stick their neck out and take risks.	25	25
C	The School is very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.	25	25
D	The School is a very controlled and structed place. Formal procedures generally govern what people do.	25	25
	Total	***100***	***100***
	2. Organizational Leadership	**Now**	**Preferred**
A	The leadership in the School is generally considered to exemplify mentoring, facilitating, or nuturing.	25	25
B	The leadership in the School is generally considered to exemplify entrepreneurship, innovating, or risk taking.	25	25
C	The leadership in the School is generally considered to exemplify a no-nonsense, aggressive, results-orientated focus.	25	25
D	The leadership in the School is generally considered to exemplify co-ordinating, organizing, or smooth running efficiency.	25	25
	Total	***100***	***100***
	3. Management of Employees	**Now**	**Preferred**
A	The management style in the School is characterized by teamwork, consensus, and participation.	25	25
B	The management style in the organization is characterized by individual risk-taking, innovation, freedom, and uniqueness.	25	25
C	The management style in the School is characterized by hard-driving competitiveness, high demands, and achievement.	25	25
D	The management style in the School is characterized by security of employment, conformity, predictability, and stability in relationships.	25	25
	Total	***100***	***100***

4. Organization Glue		Now	Preferred
A	The glue that holds the School together is loyalty and mutual trust. Commitment to this School runs high.	25	10
B	The glue that holds the School together is commitment to innovation and development. There is an emphasis on being at the cutting edge.	25	15
C	The glue that holds the School together is the emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes.	25	19
D	The glue that holds the School together is formal rules and policies. Maintaining a smooth running operation is important.	25	38
	Total	***100***	***INVALID Please ensure above 4 cells add up to 100***
5. Strategic Emphasis		**Now**	**Preferred**
A	The School emphasizes human development. High trust, openess, and participation persist.	25	10
B	The School emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	25	15
C	The School emphasizes competitive action and achievement. Hitting stretch targets and winning in the marketplace are dominant.	25	19
D	The School emphasizes permanence and stability. Efficiency, control and smooth operations are important.	25	38
	Total	***100***	***INVALID Please ensure above 4 cells add up to 100***
6. Citeria of Success		**Now**	**Preferred**
A	The School defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.	25	10
B	The School defines success on the basis of having the most unique or newest products. It is a product leader and innovator.	25	15
C	The School defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.	25	19
D	The School defines success on the basis of efficiency. Dependable delivery, smooth scheduling and low cost production are critical.	25	38
	Total	***100***	***INVALID Please ensure above 4 cells add up to 100***

Permission was obtained for the use of the OCAI to diagnose the current and preferred culture of the School of Precess and Mechanical Engineering (Cameron K.S., 2003).

APPENDIX II

TABULATED CURRENT AND PREFERRED RESULTS OF THE OCAI

	Question 1				Question 2				Question 3				Question 4				Question 5				Question 6				Average			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1	41	12	18	29	44	28	11	17	21	14	14	51	56	11	11	22	43	21	7	29	55	15	15	15	43.33	16.83	12.67	27.17
2	60	10	20	10	10	15	25	50	15	10	5	70	40	5	15	40	40	5	5	50	20	0	20	60	30.83	7.50	15.00	46.67
3	30	20	20	30	50	10	20	20	30	10	10	50	30	20	20	30	30	20	20	30	40	20	20	20	35.00	16.67	18.33	30.00
4	20	20	25	35	25	25	25	25	20	20	20	40	50	0	0	50	0	33	33	34	0	50	0	50	19.17	24.67	17.17	39.00
5	40	20	30	10	30	30	10	30	25	25	25	25	20	20	30	30	20	20	20	40	40	10	10	40	29.17	20.83	20.83	29.17
6	20	20	50	10	20	35	15	30	0	15	5	80	15	25	30	30	15	20	25	40	20	15	35	30	15.00	21.67	26.67	36.67
7	35	10	15	40	40	25	15	20	25	15	15	45	40	10	25	25	60	15	10	15	50	20	10	20	41.67	15.83	15.00	27.50
8	45	20	25	10	35	15	25	25	25	25	0	50	60	5	10	25	50	10	0	40	30	25	25	20	40.83	16.67	14.17	28.33
9	45	10	5	40	50	30	10	10	15	15	15	55	45	15	25	15	30	20	20	30	60	0	15	25	40.83	15.00	15.00	29.17
10	49	1	24	26	42	12	12	34	28	16	19	37	44	15	16	25	39	10	11	40	46	14	0	40	41.33	11.33	13.67	33.67
11	50	15	15	20	35	10	15	40	45	20	20	15	80	0	0	20	20	5	5	70	40	0	0	60	45.00	8.33	9.17	37.50
12	20	20	20	40	20	15	15	50	20	10	10	60	30	10	10	50	25	25	15	35	30	10	15	45	24.17	15.00	14.17	46.67
13	15	10	20	55	20	10	10	60	15	15	10	60	20	10	10	60	20	10	15	55	20	5	10	65	18.33	10.00	12.50	59.17
14	40	0	0	60	30	0	10	60	25	5	0	70	35	10	0	55	20	0	10	70	25	10	15	50	29.17	4.17	5.83	60.83
15	25	25	25	25	33	0	33	34	20	20	20	40	30	15	15	40	20	20	15	45	30	20	20	30	26.33	16.67	21.33	35.67
16	60	0	0	40	50	10	10	30	60	0	15	25	40	10	20	30	50	10	20	20	45	15	25	15	50.83	7.50	15.00	26.67
17	45	10	10	35	55	10	10	25	15	15	15	55	60	0	0	40	30	15	10	45	55	0	10	35	43.33	8.33	9.17	39.17
18	25	15	15	45	25	5	5	65	30	10	5	55	25	15	25	35	50	10	0	40	35	10	10	45	31.67	10.83	10.00	47.50
19	25	20	20	35	20	15	25	40	25	20	20	35	35	20	20	25	30	20	20	30	20	15	25	40	25.83	18.33	21.67	34.17
20	40	10	10	40	30	20	20	30	25	15	15	45	60	10	10	20	5	15	15	65	30	30	20	20	31.67	16.67	15.00	36.67
21	30	10	20	40	30	20	10	40	40	20	20	20	25	20	25	30	30	20	20	30	35	20	20	25	31.67	18.33	19.17	30.83
22	0	0	30	70	10	0	25	65	20	20	30	30	20	0	20	60	20	10	20	50	15	0	15	70	14.17	5.00	23.33	57.50
23	10	0	10	80	10	0	30	60	10	0	10	80	5	0	15	80	10	5	10	75	10	0	15	75	9.17	0.83	15.00	75.00
24	50	10	10	30	50	10	10	30	40	15	15	30	20	15	35	30	25	20	20	35	30	20	20	30	35.83	15.00	18.33	30.83
25	40	10	20	30	25	20	20	35	30	15	10	45	25	15	15	45	30	15	20	35	25	20	30	25	29.17	15.83	19.17	35.83
26	35	15	25	25	35	20	20	25	30	20	20	30	35	20	20	25	20	20	20	40	25	15	15	45	30.00	18.33	20.00	31.67
27	25	20	20	35	20	20	20	40	25	20	20	35	40	0	20	40	40	20	20	20	30	25	20	25	30.00	17.50	20.00	32.50
28	30	10	10	50	20	25	10	45	40	0	0	60	25	20	25	30	25	20	20	35	50	0	20	30	31.67	12.50	14.17	41.67
29	25	20	20	35	35	15	15	35	25	20	25	30	40	10	20	30	40	10	10	40	40	15	15	30	34.17	15.00	17.50	33.33
30	50	0	10	40	20	0	15	65	40	10	20	30	50	0	10	40	50	0	10	40	40	0	20	40	41.67	1.67	14.17	42.50
	34.17	12.10	18.07	35.67	30.63	15.00	16.53	37.83	26.13	14.50	14.27	45.10	36.67	10.87	16.57	35.90	29.57	14.80	14.87	40.77	33.03	13.30	16.33	37.33	31.70	13.43	16.11	38.77

TABLE 14: Tabulated Results of the Current Culture of the School of Process and Mechanical Engineering

	Question 1				Question 2				Question 3				Question 4				Question 5				Question 6				Average			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1	17	39	22	22	25	25	25	25	30	26	18	26	27	27	23	23	25	25	29	21	25	25	25	25	24.83	27.83	23.67	23.67
2	60	5	25	10	5	5	30	60	20	5	15	60	60	10	10	20	40	15	5	40	35	10	15	40	36.67	8.33	16.67	38.33
3	30	30	30	10	20	20	40	20	20	20	30	30	25	25	25	25	30	25	20	25	30	20	35	15	25.83	23.33	30.00	20.83
4	0	0	50	50	0	0	50	50	0	0	100	0	0	0	40	60	0	0	40	60	30	30	0	40	5.00	5.00	46.67	43.33
5	10	60	20	10	10	50	30	10	20	40	30	10	10	50	30	10	10	50	30	10	10	40	40	10	11.67	48.33	30.00	10.00
6	15	30	30	25	10	30	30	30	20	50	30	0	20	40	30	10	20	30	40	10	10	30	60	0	15.83	35.00	36.67	12.50
7	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25.00	25.00	25.00	25.00
8	70	10	10	10	60	10	20	10	50	10	10	30	60	30	10	0	40	20	20	20	40	10	10	40	53.33	15.00	13.33	18.33
9	5	40	40	15	10	40	40	10	10	40	40	10	10	40	40	10	0	40	40	20	10	40	40	10	7.50	40.00	40.00	12.50
10	15	30	35	20	10	30	35	25	20	25	30	25	15	30	30	25	20	40	40	0	20	20	50	10	16.67	29.17	36.67	17.50
11	10	40	40	10	20	30	45	5	20	50	30	0	20	25	30	25	15	25	35	25	15	25	30	30	16.67	32.50	35.00	15.83
12	18	32	28	22	16	41	39	4	23	35	28	14	25	32	30	13	15	34	26	25	16	43	37	4	18.83	36.17	31.33	13.67
13	25	25	25	25	25	25	30	20	25	20	30	25	25	25	30	20	25	25	35	15	20	20	40	20	24.17	23.33	31.67	20.83
14	50	25	20	5	35	25	25	15	40	20	20	20	50	15	20	15	50	15	25	10	50	10	20	20	45.83	18.33	21.67	14.17
15	25	20	40	15	25	15	40	20	25	10	45	20	20	10	40	30	20	20	30	30	20	20	30	30	22.50	15.83	37.50	24.17
16	20	30	20	30	20	25	20	35	25	25	15	35	20	30	20	30	20	30	25	25	20	25	20	35	20.83	27.50	20.00	31.67
17	5	30	60	5	20	20	50	10	15	30	50	5	20	25	45	10	20	30	40	10	10	40	50	0	15.00	29.17	49.17	6.67
18	30	20	20	30	25	25	25	25	30	15	15	40	30	0	0	70	25	25	30	20	50	0	0	50	31.67	14.17	15.00	39.17
19	25	30	30	15	20	35	30	15	20	35	35	10	15	35	35	15	20	35	30	15	20	30	40	10	20.00	33.33	33.33	13.33
20	20	30	40	10	15	30	35	20	25	35	30	10	20	35	30	15	20	30	35	15	20	30	35	15	20.00	31.67	34.17	14.17
21	35	20	30	15	30	15	35	20	30	20	40	10	30	20	35	15	40	10	35	15	35	20	35	10	33.33	17.50	35.00	14.17
22	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25.00	25.00	25.00	25.00
23	20	20	40	20	20	25	40	15	20	20	50	10	20	20	50	10	25	25	40	10	20	20	45	15	20.83	21.67	44.17	13.33
24	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	0.00	0.00	0.00	100.00
25	15	20	30	35	20	20	35	25	15	20	35	30	20	20	35	25	20	15	40	25	20	15	35	30	18.33	18.33	35.00	28.33
26	25	35	20	20	30	20	30	20	25	20	20	35	30	20	30	20	20	25	30	25	25	25	25	25	25.83	24.17	25.83	24.17
27	25	5	50	20	20	10	60	10	25	5	50	20	15	20	40	25	20	20	40	20	15	15	50	20	20.00	12.50	48.33	19.17
28	20	20	30	30	20	15	35	30	20	15	35	30	20	15	35	30	25	20	30	25	20	20	30	30	20.83	17.50	32.50	29.17
29	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25.00	25.00	25.00	25.00
30	30	30	40	0	20	35	30	15	20	30	40	10	25	25	40	10	20	20	35	25	20	25	35	20	22.50	27.50	36.67	13.33
	23.17	25.03	30.00	21.80	20.20	23.20	32.63	23.97	22.27	23.20	31.53	23.00	23.57	23.30	28.60	24.53	22.00	24.13	30.00	23.87	22.70	22.77	30.23	24.3	22.32	23.61	30.50	23.58

Table 15: Tabulated Results of the Preferred Culture of the School of Process and Mechanical Engineering

APPENDIX III

SAMPLE OF THE ORGANISATIONAL CULTURE PROFILE FORM
AND INSTRUCTIONS FOR ITS COMPLETION

INSTRUCTIONS FOR COMPLETING THE OCAI

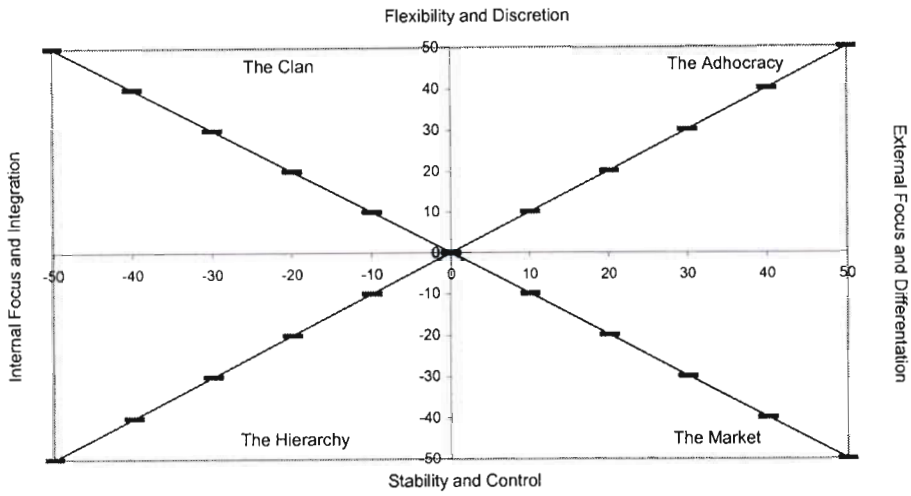


Figure 17: Sample of the Organisational Profile Form

1. Plot the average scores from Table 1 in Appendix 2 on the form above (Figure 17). The A alternative score represents the clan culture. Plot that score on the diagonal line extending upward in the top left quadrant on the form. The B alternative represents the adhocracy culture. Plot that score on the diagonal line extending upwards in the upper right quadrant of the form. The C alternative represents the market culture. Plot that score on the diagonal line extending downward in the bottom right quadrant of the form. The D alternative represents the hierarchy culture. Plot that number on the diagonal line extending downward in the bottom left quadrant of the form.
2. Connect the points in each quadrant to form a four sided figure. This profile creates a picture of the organisation's culture. (Cameron and Quinn, 1999)