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**A Study of the Significance of Organisational Culture for the successful  
implementation and operation of Total Quality Management (TQM):  
A Comparative Study between Iran and the UK**

**Mohammad Reza Sadeghian**

**A Thesis submitted to the University of Huddersfield in partial  
fulfilment of the requirements for the degree of Doctor of Philosophy**

**The University of Huddersfield**

**PhD**

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## Preface

After I graduated from Shekh Bahaei University in Iran, I decided to study abroad. I took a one-year break and came to the UK. This choice was based on the respect which British education has enjoyed over decades in Islamic Republic of Iran. I decided to embark on a Master's programme, and having succeeded in it, I realised that I had the potential for further research work and possibly an academic career. This brought me to the PhD programme under the supervision of Dr. Ralph Rollins, Dr. Graham Worsdale, and Professor David Smith at Huddersfield University.

## Acknowledgments

The successful accomplishment of a project such as doctoral dissertation is not a personal and individual task. It would have been almost impossible for me to overcome the challenges of this project without the help, encouragement, support and motivation that I received from these wonderful and supportive people. Indeed, this achievement is made possible because of them.

I would like to thank and appreciate Dr. R. Rollins, and Dr. G. Worsdale for their efforts in supervising this research. Professor David Smith has been always very helpful and supporting me during my study at Huddersfield University, so I would like to thank him very much.

Support and encouragement of my family were the most important assets for me in doing my research without any tension or pressure. Dad, mom and my wife you were always supportive.

Finally I need to thank all my friends who helped me in one way or another. Your encouragement was the best thing to help me accomplish my research project. Special thanks go to Farzad Ardalan, Vahid Sadeghian and Mohammad Reza Dalvi.

## Abstract

Iranian businesses like all others around the world need to survive and grow in the global marketplace. To facilitate this, they need true executive commitment to the provision of high quality products and services. An established way to begin this important development process is to implement Total Quality Management (TQM). By applying TQM in Iranian organisations they can begin to achieve a high standard of quality products and services at a cost that enables them to compete with their international competitors.

The purpose of this research, a comparative study, was to investigate the effect of organisational culture on the successful implementation and sustainability of the operation of TQM within Iran. In the programme of research data was collected from 50 organisations in Iranian and 40 in the United Kingdom (UK). Senior executives, general managers and quality managers were interviewed. They also completed comprehensive questionnaires which identified the issues relating to the implementation and operation of TQM in their organisations. The research then focused upon problems and barriers to the introduction, implementation and sustained operation of TQM that were experienced in Iranian businesses. Specifically issues concerning the relationship between organisational culture and TQM at all levels of the organization are explored.

The critical issues that this study set out to address relate to the relationships and interactions that exist within a Quality Management System, organisational culture and the changes that need to be instigated for success. In his investigations the researcher divided his study into two parts. Firstly the Hofstede national culture model (2002) was tested against the organisational culture variables established in work by Denison (2006). Secondly the Denison organisational variables were used to assess the implication of culture on the successful implementation and sustained operation of TQM.

The research identified that the implementation and operation of TQM in the organisations studied in the UK was highly successful whilst in the Iranian organisations

such success was identified to be low. In response to this, and based upon the knowledge and understanding gained from the investigation and analysis, the researcher presents a proposed framework to aid the successful introduction and implementation of TQM within an Iranian context.

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## **Chapter One (Introduction)**

## 1. Introduction

For a long time, developing countries have been making their economic plans using models copied from successful western countries with the aim of enjoying the same degree of economic success (Goncalo and Staw, 2006). However, globalisation and international trade, along with advances in information technology have now dramatically increased competition worldwide. To compete in a global market, firms need to be equipped with new technology, up to date information, skilled employees, and enhanced managerial skills. The concept of Total Quality Management (TQM) has been developed and propagated as the result of intense global competition. Companies with international trade and global competition have paid considerable attention to TQM philosophies, procedures, tools, and techniques.

Despite globalisation, the implementation of quality management has not occurred at the same pace in different regions of the world. While early implementation started in Japan, the US, and Europe, followed by the South East Asian countries, countries in the Middle East have lagged behind in the quality journey. To be acceptable and to compete in the global market, countries in the Middle East such as Iran need to implement quality management practices, tools, and techniques within all sections of their industries.

For a decade Iranian companies have been trying to implement TQM in their organisation. According to a study by Mosadegh Rad, (2003) and other researchers (Mortazavi, Tayab and Amiishai, 1999 and Dalvi 2005) in Iran, the percentage of unsuccessful implementation and operation of TQM is quite high. This evidence points to an important concern; Iranian organisations need to establish a new strategy towards quality management and organisational culture (Mosadegh Rad, 2006), because one of the interesting things about Iran is that the implementation and operation of TQM in Iranian companies is different, due to the influence of national culture on the existing organisational culture.

Having noted the issues relating to the implementation of TQM in an Iranian context, this research focuses on the problems and barriers to the introduction and implementation of

TQM in Iranian companies. To identify these barriers and difficulties, this study will examine the effect of national culture on organisational culture and organisational culture on TQM implementation in Iran and UK. The researcher will also introduce a suggested model for the successful implementation and operation of TQM in Iranian organisation.

## 1.2. Background

### 1.2.1 The need for the study

Each organisation has its own way of doing what it does and its own way of talking about what it is doing i.e., its own culture (Dwan, 2004). Culture can be described as the assumptions, values, behaviours and artefacts that an organisation exhibits. It is what makes one organisation different from another (Ibid). The business environment, in which organisations have to operate, has become more dynamic and competitive during recent years (Schein, 1992, P.56). This in turn has led to organisations themselves having to change and become increasingly responsive to the changes involve the workforce of the organisation (Ibid). The way people work, their roles and responsibilities and their behaviour are critical to the success or failure of an organisation's goals.

The issue of change, therefore, is one which is currently topical, and as managing organisational change is not just a passing phase, but is here to stay, it is important that change is understood in terms of its influence upon the direction of the organisation and in terms of consequences for individuals and qualities within the organisation (Schein, 1992, P.56). Change needs to be managed and implemented effectively for the organisation to survive. It is increasingly recognized that people, and their rate of learning, will determine the nature of future organisations (Schein, 1992). All companies need to be aware of new developments that affect their community, the marketplace, and their own jobs. However, what remains constant is the fundamental importance of the customer: the key to business success (Ibid).

According to Hellsten and Klefsjo (2003) the ability of organisations to adapt to the new needs of customer is crucial for long term success. During the last decade, this need has influenced many organisations to work with quality issues at a strategic level and total quality management (TQM), has frequently been used as a management strategy to develop organisations' quality strategies. However, many organisations do not realize that the implementation of TQM in most cases is a comprehensive organisational change (Hellsten, 2003) and, as a consequence, several organisations have not succeeded as expected (Eskildsun, 1994). In the light of this, many researchers hold that implementing TQM must involve a cultural transformation of the company (Atkinson, 1990, Deming, 1986, Drummond, 1992).

According to Guvenc and Carroll (1995, P.418), successful organisations today have built an organisational climate that fosters creativity, harmony and teamwork, where continuous improvement has become a way of life. With respect to developing strategy the organisation must find its mission and goals. Strategy development is important and related to whether or not the company has the appropriate structure to implement its goals (Guvenc and Carrol, 1995, P.418). A significant issue of concern must be an organisation's culture. Managers must determine what changes are needed to cultures or core values when devolving change strategies. According to Guvenc (1995), we must also examine whether or not the organisation possesses the right skill to manage and resolve issues and problems which are critical to company's success.

Preffer (1994) argues that there are different sources of success for companies; traditional sources such as: product and process technology, the protected and regulated domestic market, access to financial resources, which are no longer the route for ongoing competitiveness. He believes that people, people's culture, their expected knowledge and how they are managed is becoming the most important, powerful and newest source for success. To manage the people in organisation, it is best to have the right organisational culture and right structure for the company (Preffer, 1994).

From the research variables that have been considered before the researcher identified the key variables of national culture, organisational culture, and TQM implementation. However, achieving TQM and customer satisfaction through organisational culture is a relatively new approach to explore. In Iran, TQM and organisational culture have recently become matters for the companies. Awareness of these subjects has been heightened in recent years, where the Iranian government has paid much attention to TQM and organisational culture in both sectors and made significant investment in, and time on, such issues.

### 1.2.2 The contribution of the study

The contribution to knowledge from this study from connecting national culture with organisational culture and organisational culture with total quality management (TQM) implementation. Notably, in this study it is important to understand the development and influence of organisational culture on total quality management (TQM) implementation, in the context of both Iranian and English companies. For Iranian companies specially there is an identified need for such a study. For other industrialised developing countries there will be significant effects, due to the many other managerial theories, concepts and practices which can be influenced by external environmental factors (political, economical, social and cultural).

According to Mortazavi, Tayab, and Amirshahi (1999) many Iranian organisations in terms of their total quality management are poor, because of the lack of modern technology and marketing, low productivity of workforce; lack of development and coordination of specialized organisations; weak relationships between small-and medium-size enterprises and large scale industry; and lack of international cooperation and foreign investment. In addition, TQM in Iran is often seen as a stand-alone process rather than an important part of an overall organisational strategy of improvement. Another important factor about TQM from other studies in Iran is that TQM programmes are influenced by personal connection, nepotism and friendships that reflect cultural pressures.

According to Mortazavi, Tayab, and Amirshahi (1999) organisations all around the world are undertaking initiatives to improve quality, productivity and delivery of their products or services. These include manufacturing, service, non-profit, governmental, political, government-subsidised, international and national organisations. According to Mortazavi, Tayab, and Amirshahi (1999) Iranian companies are faced of with particular challenges:

- Unclear goals: Initiatives are often undertaken without setting realistic or measurable objectives. Without clear, shared goals, it's difficult to plan implementation, track progress, change direction if necessary, document result, recognize or reward contributors or modify behaviour when people are not contributing. Unfortunately, too many initiatives are perceived as “progress of the month” as opposed to long standing changes in the way an organisation does business. This is often the result of unclear goals.
- Ineffective management process: without effective management process (e.g., quality process, performance management process, information system, financial process, feedback system, etc) it is difficult for any organisation to be sustained long term.
- Negative climate: No initiative can succeed in an unfriendly or too negative climate. Without cooperation, trust, and everyone's willingness to consider new ideas, organisations can not achieve long-term improvement.
- Inappropriate structure: if an organisation is not structured effectively, improvement can be difficult, if not impossible. Excessive layers of management, systemic redundancies, turf battles or overly bureaucratic reporting policies can dramatically reduce or in some cases, destroy-the results of improvement initiatives.
- Undeveloped individuals: the best planned initiatives can only succeed if all the workers have the necessary skills to pull them off. Team skills, technical skills and other job skills are essential in order for change to be effectively implemented.

- Ineffective team work: long-term improvement requires more than clear goals, effective structure, equal representation and highly skilled employees. If people cannot work together or if business units are not organized for effective team work, success will often be compromised.

According to Mortazavi, Tayab and Amiishai (1999), each type of organisation faces its own unique challenges; most of these challenges are related to cultural issues.

### 1.2.3 Research aim and objectives

#### Aim

The previous research has suggested that there is a potential causal relationship between the failure of TQM and aspects of Iranian culture, the key aim of this study is to explore the relationship between national culture, organisational culture and TQM. Also, to develop a framework to achieve successful implementation and operation of TQM in Iran.

#### Objective

After identifying the challenges facing Iranian organisation, this research has a number of objectives related to the national culture, organisational culture, and Total Quality Management implementation, in Iranian and the UK companies. These objectives are:

1. To understand the role, function, and importance of organisational culture.
2. To understand the implementation, operation and sustaining of TQM in Iran and UK organisation.
3. To understand the relationship between organisational culture and TQM.
4. To identify the factors that influence Iranian and the UK organisations through the implementation and operation of TQM.

## 1.2.4 Research Questions

The questions addressed by the research are:

- First Question: What is organisational culture; its importance, functions and role?
- Second Question: How TQM could be organised, implemented, and sustained within the Iranian and the UK organisation?
- Third question: Should an organisational culture be initiated before TQM or vice versa? Should they be initiated together? How would we ensure TQM and organisational culture-s complements one another, instead of overshadowing?
- Fourth question: What are the main factors which could influence TQM in countries such as Iran and the UK?

### 1.3 Organisation of the thesis

This thesis contains ten chapters. A brief description of each chapter is presented below to summarise the thesis.

**Chapter one**, provide an introduction to the subject of the thesis, research justification and philosophy. The aims and objectives of the research, summary of main findings and organisation of the thesis are also presented.

**Chapter two**, present the literature on national culture and organisational culture. It starts by reviewing various definition of national culture and organisation culture and concludes with an evaluation and criticism of different philosophies of organisational culture.

**Chapter three**, explain the evolution of TQM with time, the TQM gurus who have contributed to the training and practice the quality improvement.

**Chapter four**, this chapter describes the meaning, principles, tools, and techniques of implementation and operation of TQM and discusses the recent research and developments in the TQM implementation in Iran and the UK.

**Chapter five**, the aim of this chapter is to describe the research methodology that has been applied in undertaking this research and to explain the steps followed and the methods employed by the researcher to collect the data. This chapter starts with an overview of the research methodology and paradigm. This is followed by a detailed description of the data collection methods adopted in this research including a justification for the research population and sample selection. This is developed to explain the procedures undertaken relating to questionnaire design and plan, interview, pilot work, question types and format, the covering letter, content of the final version of the questionnaire, administering the questionnaire, the respondents, checking for non-respondent bias and reliability and validity evaluation are also discussed. Finally, the

chapter concludes with a discussion and justification of the statistical methods and techniques used in the data analysis in order to fulfil the objectives of the study.

**Chapter six**, this chapter aims to provide the interview analysis in three majors' topics; national Culture; organisational Culture; and TQM Implementation. The interviews were focused at the managers, quality control departments' managers and sales managers in Iran and the UK.

**Chapter seven**, this chapter presents the result of the questionnaires which have been collected from Iranian companies. First demographic information on the data set is provided. Then, descriptive statistics on the meaning of each construct will be explained. The findings have been expressed in both narrative and graphic forms, with references to specific questions when necessary. Later reliability information on the item is discussed and finally the correlation matrix is explained.

**Chapter eight**, this chapter presents the result of the questionnaire which is collected from the UK companies. First demographic information on the data set is provided. Then, descriptive statistics on the meaning of each construct will be explained. The findings have been expressed in both narrative and graphic forms, with references to specific questions when necessary. Reliability information on the item is then discussed and finally the correlation matrix is explained.

**Chapter nine**, the aim of this chapter is to discuss the result of the qualitative and quantitative data by focusing on internal/external validation, interpretation of the key findings and their various implications.

**Chapter ten** presents the conclusion of the research and contributions to the body of knowledge. A proposed model for TQM implementation within Iranian organisations is presented. Suggestions for future research in the area also included.

## **Chapter Two (National Culture & Organisational culture)**

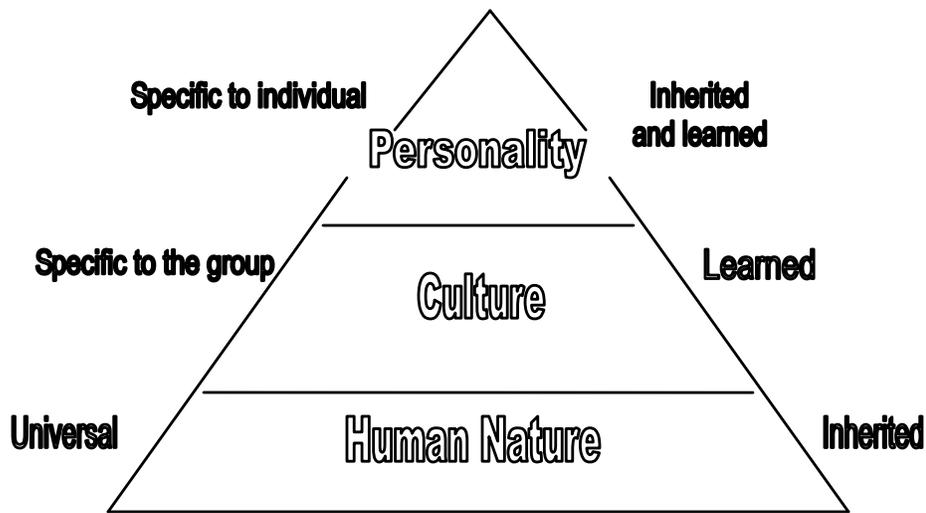
## 2.1 Introduction

The term culture can be used in two different ways. The first is in the sense of national culture whilst the second is to refer to organisational culture. Culture is the ideas, beliefs and customs that are shared and accepted by people in a society or culture refers to the underlying values, beliefs and codes of practice that make community what it is (Shermerhorn, 2002). The customs of society, the self-image of its members, the things that make it different from other societies, are it is culture. Culture is powerful subject (Ibid). Culture has been on the agenda of management theorists for quite a long time.

## 2.2 Explaining culture

Culture is as difficult to define as many other concepts describing human social life. Hofstede (2001) explains culture as collective programming of the mind. He argues that every person carries with himself or herself, patterns of thinking, feeling and potential acting which were learned in early childhood, because at that time a person is most vulnerable to learning and understand. As soon as certain patterns of thinking, feeling and acting have established themselves within a person's mind, she or he must unlearn these before being able to learn something different, and unlearning is more difficult than learning for the first time.

Hofstede (2001) says that culture always is a collective phenomenon, because it is at least partly shared with people who live or lived within the same social environment, where it was learned. That means it is the collective programming of the mind that distinguishes the members of one group or category of people from another.



**Figure 2.1 There levels of uniqueness in human mental programming (Hofstede, 2001)**

According to Gjelsvik (2001) culture is learned, not innate, and it derives from one's social environment. He says culture should be well-known from human nature on one side, and from an individual's personality on other side. This is showed in figure 2.1 to distinguish those three parts; however, it is very difficult task and it is a matter of continuous discussion between scholars.

Human nature is what determines one's physical and basic psychological functioning. This is inherited and common to all humans. This contains the human ability to feel fear, anger, love, joy, sadness, the need to associate with others, to play and exercise oneself, the facility to observe the environment and to talk about it with other humans all belong to this level of mental programming. However, what one does with these feeling, how one expresses fear, joy, observations, and so on, is modified by culture. The personality of an individual, on the other hand, is her or his unique set of mental programs which he or she does not share with any other human being. It is based upon traits that are partly inherited with individual's unique set of genes and partly learned.

Hofstede (2001) says that as almost everyone belongs to a number of different groups and categories of people, at the same time, people unavoidably carry several layers of mental

programming within themselves, corresponding to different levels of culture. For example:

- A national level according to one's country (or countries for people who migrated during their life time)
- A regional and/or ethnic and/or religious and/or linguistic affiliation level, as most nations are composed of culturally different regions and/or ethnic and/or religious and/or language groups
- A gender level, according to whether a person was born as a girl or as a boy
- A generation level, which separates grandparents from parents from children
- A social class level, associated with educational opportunities and with a person's occupation or profession
- For those who are employed, an organisational or corporate level according to the way employees have been socialised by their work organisation.

In a modern society these various levels are not necessarily in harmony, but are often partly conflicting: for example, religious values may conflict with generation value's gender values with organisational practices.

## 2.3 Cultural approach

The advocates of this approach among organisational theorists, although placing emphasis on different aspects of organisations, have tried to analyse the underlying values which shape the organisation as they are.

There are generally three groups in this approach: firstly, those who see the culture as the only variable determining the organisational characteristics; secondly those who believe there are some characteristics which are determined by cultural values and also some which are universally seen in organisations all over the globe; third group reject the very concept of culture and its utility; this group will be considered at the end of this chapter.

A review of the studies conducted by cultural view is essential, because it enables the researcher to know their arguments, assumptions and limitations.

## 2.4 National culture

It is difficult to find one agreed definition of national culture, for example, Kroeber and Kluckholm (1985) found over 160 definitions of culture in their research (Brooks, 2003). This may be because culture can be viewed from different scientific perspectives such as anthropological or sociological ones (Ibid). Two useful examples of definitions of culture are as follows. According to Mead (1951) culture ‘is a body of learning behaviour, a collection of beliefs, habits and traditions, shared by a group of people and successively learned by people who enter society’ (Brooks, 2003, P.265). Hofstede (2001) defines national culture as the collective mental programming of the people in a national context.

However, the important element of culture is the set of values and fundamental, taken-for-granted assumptions held by a group of people (Brooks, 2003). For instance that value and assumptions are about the “manner of phenomena”, including those about what is right and what is wrong and what is good and what is bad (Brooks, 2003, P.265). The discussion above shows that culture includes some commonly held values among a group of people which have been determined by the environment in which they grew up and which, to some extent, will influence their behaviour both inside and outside the organisation (Ibid). Simply describing differences in the behaviour of companies by country of origin suggests that each individual country has a unique set of characteristics that will affect decision made within the companies (Pagell, et al, (2004). For example popular dimensions of culture which may affect on organisations are “language”, “interpersonal space”, “time orientation”, and “religion” (Shermerhorn, 2002). Figure 2.2 shows the origins of commonly held value.

As we can see, these are all factors that may affect how people’s values develop within the society in which they grow up and work (Brooks, 2003).

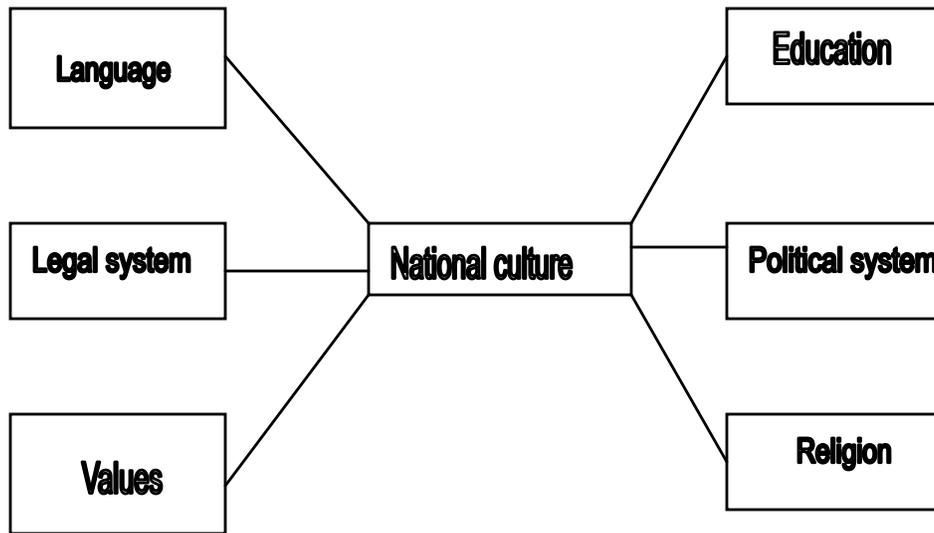


Figure 2.2 Factors affecting national culture (Brooks, 2003, P.266)

### 2.4.1 Language

Perhaps one of the important factors is language. Language provides access to the type of cultural understanding and to develop the relationships (Shermerhorn, 2002). According to Hall (1976), there are important differences in the way cultures use language in communication. Hall (1976) describes “low-contexts cultures” as ‘those in which most communication take place via the written or spoken word’. Language reflects the nature and values of society (Ibid). There may be many sub-cultural languages like dialects which may have to be accounted for. Some countries have two or three languages. In Iran there are three languages - Farsi, Turkish and Arabic with numerous dialects. Language can cause communication problems - especially in the use of media or written material. For example in countries like the United States, Canada, and Germany, the message is sent in very exact wording (Ibid). However, things are quite different in “high-context cultures”, ‘where much communication takes place through nonverbal and situational cues, in addition to the written or spoken word’ (Ibid) that means the words communicate only a small part of the message.

## 2.4.2 Religion

As a cultural variable, religion is also important, because religion is a major influence on many people's lives, and its impact may extend to practices regarding dress, food, and behaviour (Ibid). The religion's effect may be especially pronounced in countries where the religious and political systems are closely interlinked, such as in Iran, but it will also be significant in determining the type of values developed (Ibid). For example, "Islamic banks" in Iran, service their customers without any interest charges to remain consistent with teachings of the Koran (Mortazavi, et al, 1999). In June 1979, 'Iranian banks were nationalized and banking regulations changed with the approval of the Islamic banking law (interest free), and the role of banks in accelerating trade deals, rendering services to clients, collecting deposits, offering credits to applicants on the basis of the "CBI's" policies and so on was strengthened' (Ibid). The effect of religion may be especially pronounced in countries where the religious and political systems are closely interlinked, such as in Iran, but it will also be significant in determining the type of values developed.

## 2.5 Hofstede's Findings

One of the studies on the issue of the influence of national culture and cultural values on structure in international comparative level has been conducted by Hofstede. In his researches on subsidiaries of a multinational corporation in 64 countries, he identified some of cultural values which are conceptually related to the organisation structure.

Hofstede (2001) identifies two main dimensions of organisation structure, i.e., "structuring of activities" (including standardisation, specialisation, and formalisation) and "concentration of authority" (which includes centralisation). Hofstede argues that it should be possible to find cultural dimensions (on which countries differ) related to these structural dimensions. Hofstede's research (2001) offers one framework for understanding the management implications of broad differences in national cultures. Hofstede (2001) selected countries rank on the five dimensions. The five dimensions were initially identified through a comparison of similar people (employee and managers)

in 64 different national subsidiaries of IBM Corporation. The employees were working for the same multinational but in different countries. Those dimensions are:

- “Power distance” is conceptually related to “concentration of authority” (Ibid). Large power distance means vertical dependence in the organisation, making everybody dependent on the top man, which leads to centralisation of decisions. According to Hofstede (2001) power distance is the ‘degree to which a society accepts or rejects the unequal distribution of power in organisation and the institutions of society.
- “Uncertainty avoidance” is ‘the degree to which a society tolerates risk and situational uncertainties’ (Ibid).
- “Individualism-collectivism” is ‘the degree to which a society emphasizes individual accomplishment and self-interests, versus collective accomplishments and the good of groups’ (Ibid).
- “Masculinity-femininity” is ‘the degree to which a society values assertiveness and material success, versus feeling and concern for relationship’ (Ibid).
- “Time orientation” is the degree to which a society emphasizes short term considerations versus greater concern for the future’ (Ibid).

Hofstede (2001) concludes that differences in these cultural dimensions across different countries provide an underlying explanation for different organisational structures, and given these cultural differences, the resultant structures in a culture are logical to members of the same culture.

Hofstede (2001) then argues that in countries with large power distance and high uncertainty avoidance the general pattern of organisations, be it work organisation or political system will be an authoritarian one. In countries with low uncertainty avoidance and small power distance, the general pattern of organisations, be it work organisation or political system, will be a democratic one (Hofstede, 2001)

### 2.5.1 Power distance

According to Gjelsvik (2001) power distance (PDI-scores) informs us about dependence relationships in a country. In country with low power distance there is limited dependence of subordinates on managers, and a first choice for discussion, that is interdependence between manager and subordinate. The emotional distance between them is relatively low: subordinates will quite willingly approach and contradict their managers (Ibid). In large power distance countries there is considerable dependence of subordinates on managers (Ibid). Subordinates are unlikely to approach and contradict their managers directly.

As Hofstede (2007) says power distance has roots in the family. In the large power distance situation children are expected to be obedient towards their parents (Ibid). Sometime there is even an order of authority among the children themselves, younger children being expected to yield to older children (Ibid). Independent behaviour on the part of children is not encouraged (Ibid). It is seen as a basic virtue; children see others showing such respect, and soon require it themselves. Parental power continues to play a role in peoples' lives as long as parents are alive. Parents and grandparents are treated with formal deference even after their children have actually taken control of their own lives (Gjelsvik, 2001). There is a pattern of dependence on seniors which passes through all human contacts, and the mental "software" which people carry contains a strong need for such dependence.

In the lower power distance situation children are more or less treated as equals as soon as they are able to distinguish (Ibid). According to Hofstede (2007) the goal of parental education is to let the children take control of their own live as soon as they can. Active experimentation by the child is encouraged: a child is allowed to contradict its parents, it learns to say no very early (Ibid). Relationships with others are not dependent on the other's status; formal respect and deference are seldom shown (Gjelsvik, 2001). When children grow up they replace the child-parent relationship by one of equals (Ibid). There

is an ideal of personal independence in the family. A need for independence is supposed to be a major component of the mental software of an adult (Ibid).

According to Hofstede (2007) in the PDI-ranking (11-104) the UK ended up near the bottom with score 35 and Iran with score 58 (see table 2.1.). This could be interpreted to mean countries with different religions have different effects on dimension of culture, and for example, Islam wants children to know their duties to their parents, in such a way as to avoid the pitfalls of disobedience M' Baye, 1998.

Score Rank	Country or region	PDI score
29/30	Iran	58
42/44	The United Kingdom	35

**Table 2.1 Power distance index (PDI) values for the UK and Iran**

### 2.5.2 Collectivism/ Individualism

Individualism, measured on the IDV-score, pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family (Hofstede, 2007). Collectivism is its opposite and pertains to societies in which people from birth onwards are included into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (Gjelsvik, 2001).

In collectivist societies the interest of the group prevails over the interest of the individual (Ibid). In collectivist societies the extended family is the norm, and when children grow up they learn to think themselves as part of a we-group or in-group, a relationship that is not voluntarily, but given by nature. The "we"-group is distinct from other people in society who belong to "they" groups, of which there are many (Ibid). The "we"-group is the major source of one's identifying, and the only secure protection one has against the

difficulty of life (Ibid). Therefore one owes lifetime loyalty to one's in-group, and breaking this loyalty is one of the worst things a person can do (Ibid). Between the person and the in-group a dependence relationship develops which is both practical and psychological (Ibid).

According to Hofstede (2007) in individualist societies the interest of the individual prevails over interests of the group. In these societies the centre of the family is the norm (Ibid). Children from such families, as they grow up, soon learn to think of themselves as I (Gjelsvik, 2001, P.58). This I, their personal identity, is distinct from other people's I and these others not classified according to their group membership but to individual characteristics (Ibid).

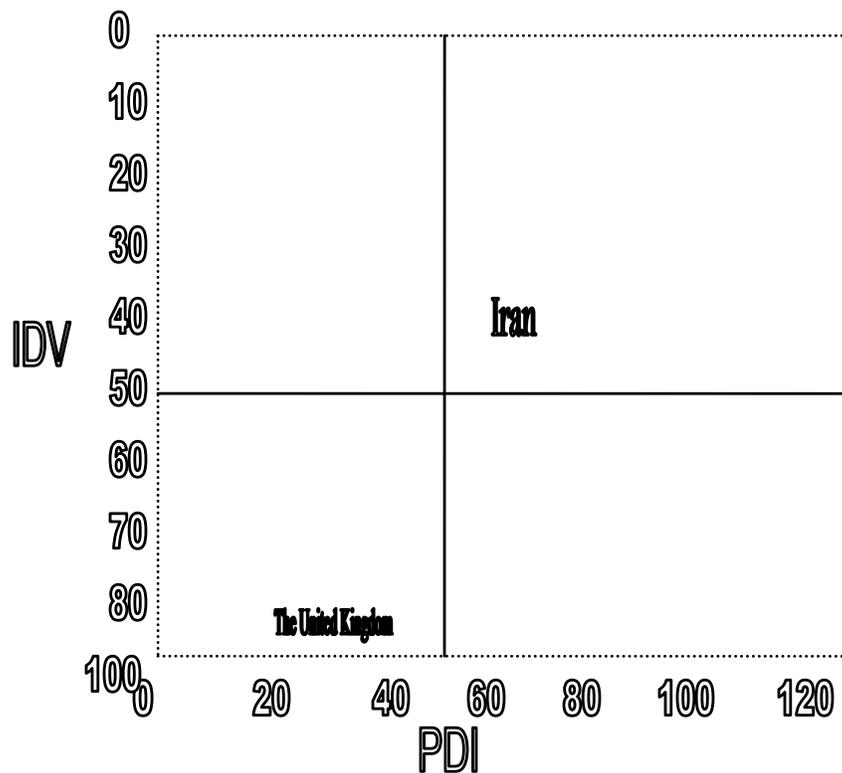
According to Hofstede (2007) in collectivist societies harmony should always be maintained and direct confrontation stayed away from. There also exist a high-context communications, and relationship prevails over task (Ibid). The relationship employer-employee is perceived in moral terms, like a family link and management is management of a group (Gjelsvik, 2001, P.59). On the other hand, in individualist societies, speaking one's mind is a characteristic of an honest person (Ibid). There exist low-context communication, and task succeeds over relationship (Ibid). The relationship of employee is a contract supposed to be based on common advantage, and management is management of individuals (Ibid).

According to (Hofstede, 2001) in the IDV-ranking (6-91) both Iran and the UK differ in their placement, the UK ranking is 89 and Iran's ranking is 41 (See table 2.2). We see that the UK is far more individualistic than Iran. In Islamic traditions family bonds are thought to be strong and something that should be cherished (Maqsood, 1998). Also in Islam the whole society is considered to be one unity and more important than individualistic needs.

Score Rank	Country or region	IDV score
3	The United Kingdom	89
24	Iran	41

**Table 2.2 Individualism index (IDV) values for the UK and Iran**

If we plot the PDI score and IDV score, as shown in Figure 2.3, Iran end up in the large power distance/collectivist corner, and the UK end up in the small power distance/individualist corner.



**Table 2.3 IDV- scores and PDI- scores for relevant countries (Hofsted, 2001)**

### 2.5.3 Femininity/masculinity

According to Hofstede (2001) masculinity, measured by MAS-scores, pertains to societies in which social gender roles are clearly distinct, for example men are supposed to be self-confident, tough and focused on material success but women are supposed to be more modest, tender, and concerned with quality of life. Femininity relates to societies in which social gender roles are not clearly separated, that means both men and women are supposed to be modest, caring and concerned about of the quality of life (Ibid).

In feminine cultures the dominant values in the society are caring for others and preservation (Gjelsvik, 2001, P.59). People and good relationships are very important. In the family both fathers and mothers deal with facts and feeling (Ibid). Arguments are resolved by negotiation, and managers use feeling and strive for agreement, there is also a stress on quality, solidarity, and quality of work-life (Ibid). In masculine cultures, on other hand, the dominant values in society are material success and progress, money and things are important (Ibid). In the family, fathers deal with facts and mothers with feelings. Arguments are resolved by fighting them out, and managers are expected to be decisive and assertive, there is a stress on equity, competition among colleagues, and performance.

According to Hofstede (2007) in the MAS index (95-5) the UK is with scores 66, and Iran s in the middle, with score 43. Maybe, one of the reasons will be religion, because Islamic teaching forfeit segregation of sexes, and that women and men should hold different roles in the society and in the family.

Score Rank	Country or region	MAS score
9/10	The United Kingdom	66
33/36	Iran	43

**Table 2.4 masculinity index (MAS) values for the UK and Iran**

#### 2.5.4 Uncertainty avoidance

According to Hofstede (2001) uncertainty avoidance, measured by UAI-scores, refers to the extent to which the members of a culture feel threatened by uncertain or unfamiliar situations. This feeling is, among other things, expressed through nervous stress, a need for predictability and a need for written and unwritten rules (Ibid).

According to Gjelsvik (2001) in a weak uncertainty avoidance culture uncertainty is a normal feature of life and each day is taken as it comes. For example students are comfortable with open learning situations and concerned with good discussion (Ibid). There is also a tolerance of deviant ideas and behaviour, and time is a framework for orientation, and precision and punctuality have to be learned (Ibid).

On other hand, in strong uncertainty avoidance cultures, the uncertainty inherent in life is felt as a continuous threat that must be fought (Hofstede, 2001). Students are comfortable in structured learning situations and worried about the right answers, and there exists a suppression of deviant ideas and behaviour; resistant to innovation. Precision and punctuality come naturally (Ibid). Hofstede (2001) says in the UAI ranking (112-8) the UK is 35 and Iran is 59. We can see in table 2.4

Score Rank	Country or region	UAI score
31/32	Iran	59
47/48	The United Kingdom	35

**Table 2.5 Uncertainty avoidance index (UAI) values for the UK and Iran**

## 2.6 Discussion of National culture's dimension

The view of Hofstede's (1980, 2001) model has changed over the years. For example it has been pointed out that one of the main focuses of Hofstede's research is that only IBM employees were investigated. Also some questioned whether the use of only one attitude survey questionnaire provided a valid base from which to infer values (Sondergaard, 1994). Tayeb (1994) argued that Hofstede did not empirically investigate the relationship between the four dimensions and the structure of the organisation, whose managers participated in the study. However Sondergaard (1994) argued that Hofstede's (1980) research was 'based on a rigorous research design, a systematic collection and a coherent theory to explain variations' (Sondergaard, 1994, P.448). Tayeb (1994) continues that Hofstede made a main contribution to the study of organisations within a cultural approach (Tayeb, 1994, P.433)

Although, many attempts have been made by researchers to distinguish national culture dimensions, Hofstede's dimensions are considered the most famous and the most widely used in cultural researches. Hofstede's dimensions are enough to reflect culture differences regarding managerial aspect inside organisations. Hofstede has the advantage over other many researches in identifying dimensions which are complete and precisely defined. The definitions which Hofstede identified for each dimension made it easy to measure them in different cultures. The dimensions reflect the manager / employee relationship and have a great impact on management inside organisations.

## 2.7 Organisational culture

As an organisation grows, it starts to have an organisational culture. The concept of organisational culture has become one of the most important topics in organisation science. The concept of organisational culture has been defined by Berryman (1989) as a set of assumptions or beliefs that are shared by members of an organisation. Recently, Hofstede (2001) defined culture as the collective programming of the mind, which distinguishes the employees of one organisation from another. However, O'Reilly and Chatman (1996) referred to the importance of differentiating between the formal control mechanism and the social control mechanism inside the organisation. In other word, these researchers viewed organisational culture as a form of social control that operates when members of a group or organisation share expectations about values and these values are to be set in the form of words and actions.

Schein (1992) distinguished three levels of culture:

- (1) "Artefacts", this includes visible organisational structures and process
- (2) "Espoused values", this includes strategies, objectives and philosophies
- (3) "Basic underlying assumption", this includes unconscious, taken for granted beliefs.

Schein (1992) described organisational culture as the patterns of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration. It worked well enough to be considered valid and therefore to be taught to new members as the correct way to perceive, think and feel in relation to those problems. Martin and Siehl (1993) suggested four statements which they believe reflect the essence of much of the recent organisational culture research:

- Cultures offer an interpretation of an institution's history which members use to see what is expected from them
- Cultures generate commitment to corporate values

- Cultures serve as an organisational control mechanism

If we look at the first statement, we can see the first statement reflects to a great extent Schein's definition of organisational culture.

According to Wilkins (1983) organisational culture will not reach the depth of socially shared understanding of the paradigmatic cultures studied by anthropologists, since learning organisational culture comes in adulthood. That means it's not expected that the effect of organisational culture will be as strong as that of national culture. However, Jaeger (1983) suggested that a firm with a strong organisational culture tends to have a strong influence on the values of employees.

On other hand, professional culture is narrower in scope than organisational culture. Although this is still has some degree of importance, and further research will be interesting in this area, Bloor and Dawson (1994) did some research about nature of professional culture. They argued that to be professional took place through such stages as the formation of professional associations, the development of minimum standards of professional training, the search for professional knowledge, and the development of a code of ethics and political agreement, in order to gain public support for the claim of professional status.

Chatman and Jehn (1994) tried to examine the relationship between two industries (technology and growth) and organisational culture. The relationship was tested in the organisational cultures within companies of each industry and across industries. In Chatman and Jehn's (1994) research fifteen American companies in four industries participated. The companies included eight of the largest American public accounting companies, three general consulting companies, three national household product carrier companies, and one government and transportation company. The result was found that organisational culture varied across industries rather than across companies working in the similar industry.

In this research professional or industrial culture is not part of the investigation, but it helps to provide a whole picture of the different types of culture.



**Figure 2.3 Levels of cultures (Chatman, and Jehn (1994))**

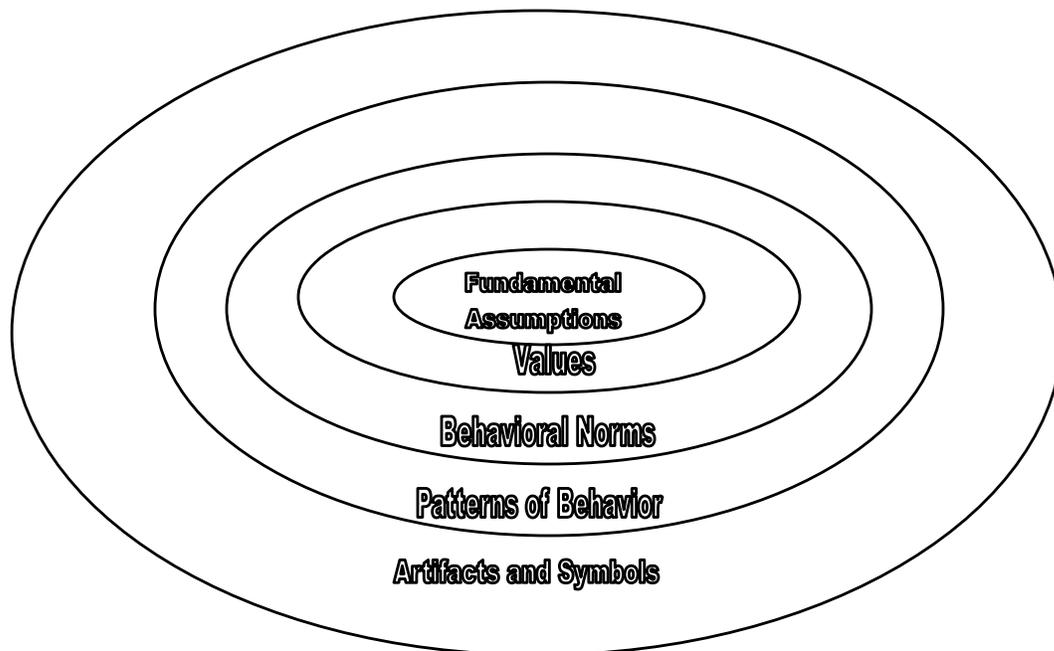
### 2.7.1 Organisational culture dimensions

Hofstede (1998) discovered and introduces organisational culture dimensions by a study in 1998. Hofstede's (1998) research took place in twenty Danish and Dutch organisational units. In his study, Hofstede tried to cover a wide range of different organisations, in order to measure the difference and similarities with the range of culture differences that can be found in practice. Six dimensions of Hofstede's (1998) organisational culture are:

- 1) Process-oriented versus results-oriented. This dimension tried to show difference between a concern with means and a concern with objectives.
- 2) Employee-oriented versus job-oriented. This dimension explores the differences between a concern for people and concern for getting the job done.

- 3) Parochial versus professional. This dimension tried to compare and contrast units whose employees derive their identity largely from the organisation with units in which people identify with their type of job.
- 4) Open system versus closed system. This dimension tried to look at the differences between open and closed systems.
- 5) Loose versus tight control. This dimension tried to look at the amount of internal structuring in the organisation.
- 6) Normative versus pragmatic. Pragmatic units are market-driven with the emphasis on meeting customers' needs and, results are more important than following procedures. For the normative units, emphasis is on correctly following organisational procedures, which are more important than result.

Nevertheless, these organisational dimensions have not been as widely used as Hofstede's national culture dimensions. However, Schein (1992) identified five levels of organisational culture. According to Schein (1992) levels of organisation are fundamental assumption, values, behavioural norms, pattern of behaviour, artefacts and symbols.



**Figure 2.4 Levels of organisational culture (Schein, 1992, P.236)**

- Artefacts. This is considered the outside level, which includes all phenomena that can be seen, heard and felt in one's organisation. Artefacts include what is obvious from the group, for example, languages, technology and products, and stories and style said about the organisation.
- Patterns of behaviour
- Behavioural norms
- Values
- Fundamental assumptions. Baker, (2002, P.3) consider that Schein's, fundamental assumptions constitute the core and most important aspect of organizational culture. They refer to the unconscious, taken-for-granted beliefs, perceptions, thoughts and feelings of the group.

Schein (1992) identified that the most important issue for any leader is to get to the deeper levels of culture.

On the other hand, Trompenaers and Hampden-Turner (1998) identified four types of organisational culture, the family, Eiffel tower, guided missile and incubator.

- Family culture. This type of culture is more personal but also hierarchical, the leader is the caring father who knows better than his subordinates.
- Eiffel tower culture. This type of culture is steep at the top and broad at the base. Each higher level has a clear and verifiable function of keeping together the levels below it. Managers are obeyed, as it is their role to teach.
- Guided missile culture. This type of culture is learnt about tasks. In this culture the roles of members are not fixed in advance. They have to do and complete whatever task is needed.
- Incubator culture. This type of culture has not got any structure. That means it is based on the idea that the organisation is secondary to the fulfilment of individuals. It looks to free individual from routine activities. The structure made for personal convenience.

Another dimension of organisational culture has been identified by Cartwright and Gale (1995). The masculine cultures are likely to be dominated by power relationships and results-oriented. On the other hand, feminine cultures are likely to be more concerned with interpersonal relationships and be process-oriented. According to Cartwright and Gale (1995) different gender cultures need different managerial styles. They argued that this may account for the limited participation of women in project management, in that the culture of traditional project-based industries like manufacturing and engineering is “masculine” in orientation. Cartwright and Gale suggest that considering gender as an organisational culture dimension and creating an appropriate gender-inclusive culture inside the organisation through needing and rewarding matching values and behaviours would lead to higher and better quality management.

It can be seen that, several frame works have proven useful for understanding cultural difference, like Hofstede, Shein, and Trompenaars. These researchers have helped to establish some relatively universal dimensions (e.g., individualism, and power distance) that can be useful in understanding difference across culture. But, relatively few researchers have attempted to understand the impact these behavioural differences have

in different national contexts. Denison (2000) in his research has developed an explicit model of organisational culture and effectiveness and a validated method of measurement. Denison and his colleagues used data from 764 organisations, they showed that four different cultural traits (mission, consistency, adaptability, and involvement) were related to different criteria of effectiveness. Denison in his research found that the traits of mission and consistency were the best predictors of profitability, the traits of involvement and adaptability were the best predictors of innovation, and the traits of adaptability and mission were the best predictors of sales growth. Denison in his latest research linked the elements of his model to differences in customer satisfaction in two industries, and other have presented an application of this model to foreign-owned firms operating in Russia. Denison's (2000) model measures four critical characters of culture and leadership. According to Denison (2000) these characters are; 1) Mission, 2) adaptability, 3) Involvement, and 4) consistency. Each of these characters is broken in to the three indexes (See, figure 2.6).

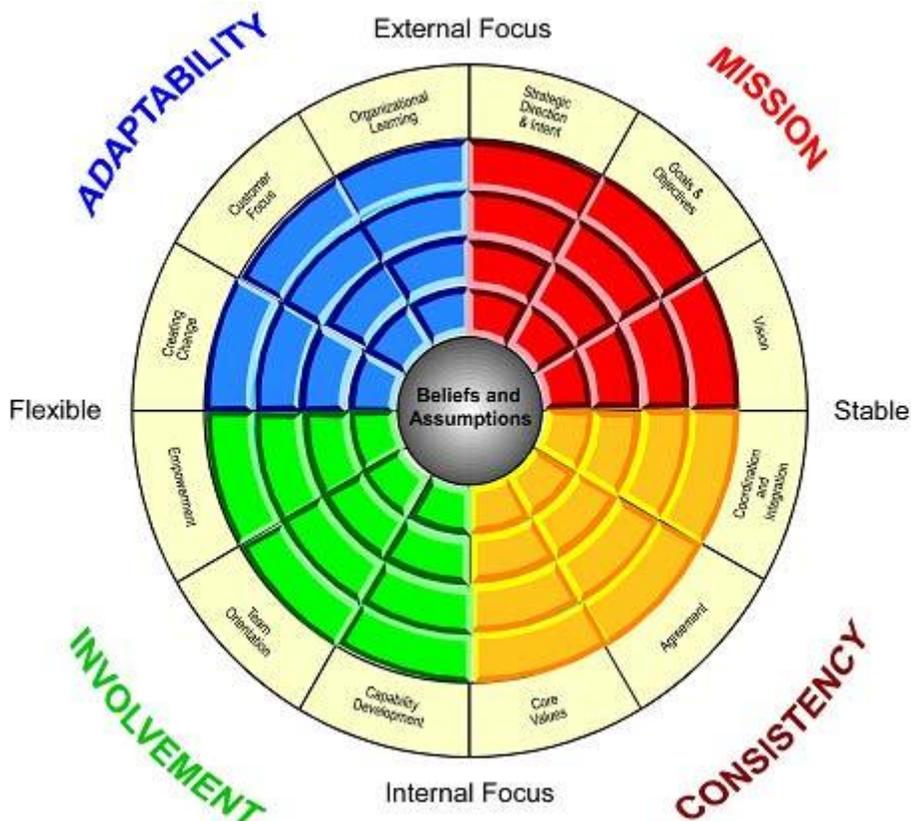


Figure 2.5 Denison's organisational culture model (www.denisonconsulting.com, 2006)

- Mission: ‘A mission provides purpose and meaning by defining a social role and external goals for the organisation’ (Denison, 2000). Successful organisations have a clear sense of purpose and direction that defines organisational goals and strategic objectives and expresses a vision of how the organisation will look in the future. When an organisation’s underlying mission changes, changes also occur in other aspects of the organisation’ culture.
- Adaptability: ‘Organisations hold a system of norms and beliefs that support the organization's capacity to receive, interpret, and translate signals from its environment into internal behavioural changes that increase its chances for survival, growth and development’ (Ibid). Ironically, organisations that are well integrated are often the most difficult ones to change. Internal integration and external adaptation can often be at odds. Adaptable organisations are driven by their customers, take risks and learn from their mistakes, and have capability and experience at creating change. They are continuously changing the system so that they are improving the organisations’ collective ability to provide value for their customer.
- Involvement: Organisational cultures characterized as "highly involved" ‘strongly encourage employee involvement and create a sense of ownership and responsibility’ (Ibid). Effective organisations empower their people, build their organisation around teams, and develop human capability at all levels. Executives, managers, and employees are committed to their work and feel that they own a piece of the organisation. However, people at all levels feel that they have at least some input into decisions that will affect their work, and that their work is directly connected to the goals of the organisation.
- Consistency: ‘Consistency provides a central source of integration, coordination and control’ (Ibid). As Denison (2000) said, organisations tend to be effective because they have strong cultures that are highly consistent, well coordinated, and well integrated. Behaviour is rooted in a set of core values, and leaders and followers are skilled at reaching agreement even when there are diverse points of view. This type of consistency is a powerful source of stability and internal integration that results from a common mindset and a high degree of conformity.

Like many models of organisational culture, this model focuses on the contradictions that occur as organisations try to achieve internal integration and external adoption. For example, organisations that are market focused and opportunistic often have problems with internal integration. On the other hand, organisations that are well integrated and over controlled usually have a hard time adapting to their environment. Organisations with a top-down vision often find it difficult to focus on the empowerment and the bottom up dynamics needed to implement that vision. At the same time, organisations with strong participation often have difficulty establishing direction.

However, at the core of this model are underlying beliefs and assumption. The deeper levels of organisational culture are typically quite unique to each firm and are thus difficult to measure and harder to generalise about. They are often best understood from a qualitative perspective. Nonetheless, they provide the foundation from which behaviour and action spring. The four traits of organisational culture presented by Denison have been expanded upon to include three sub dimensions for each trait, for a total of 12 dimensions. On other hand, this model is often used as part of a diagnostic process to profile specific organisation in order to highlight the strengths and weaknesses of their cultures and to suggest ways in which the organisation's culture may influence its effectiveness.

### 2.7.2 Organisational culture and leadership

This section explore the relationship between organisational culture and leadership.

The organisational leader plays an important role in the nurturing, disseminating, and shaping of organisational culture (Smircich, Morgan, 1982). Indeed, the manipulation of culture has been described as being the 'unique and essential function of leadership' (Schein, 1985, P.317).

‘If the concept of leadership as distinguished from management and administration is to have any value, we must recognise the centrality of this culture management function in the leadership concept’ (Ibid).

Schein (1985) outlines the process through which leaders influence culture in growing organisations. He states that the leadership externalises its own assumptions and embeds them gradually and consistently in the mission, goals, structure, and working procedures of the group. Once the organisation develops a substantial shared history amongst its members, culture becomes more of a cause than an effect. In the mature organisation, culture now defines what is to be thought of as leadership.

Researchers have tried to define the different styles of the leadership in organisations in many ways, but one of the most important distinctions is between: transformational leadership and transactional leadership.

In organisation with established culture, transformational leadership is required to manage the process of cultural change. Indeed, this function marks a distinction between transformational as opposed to transactional management (Tichy and Devanna, 1986).

‘A transformational leader is a person who can literally transform and imbedded organisational culture by creating a new vision of and for the organisation and successfully selling the vision by rallying commitment and loyalty to transform the vision into a reality’ (Ott, 1989, P.5).

Transformational leadership people are the main concern of this model. Hence the leader spends a lot of time talking to his employees and trying to learn more about them specially their goals, and problems (Bass and Riggio, 2006). It symbolises a leadership attitude is focused more on future potential than present. The different side of transformational leadership show us about the different strategies in different times and this will design the organisational future. Transformational leadership is adjusted towards change (Ibid) which involved the development of future perspectives. The

transformational leaders try to develop a vision of the preference structure, products, work processes and practices in their department and implementing a plan to achieve their goals.

Making reference to the Lewinian (1947) change framework. Schein (1985, P.322) argues that ‘the leader must therefore be a skilled change manager who first learns what the present state of culture is, unfreezes it, redefines and changes it, and then refreezes the new assumptions’.

On the other hand, Transactional leadership is focused on the current work process and results and is therefore present oriented (Bass and Riggio, 2006). The features of present oriented individuals include a practical attitude, a focus on reality rather than on potentiality, a forceful pursuit of short-term projects but also low self-efficacy as well as higher degrees of fatalism and risk-taking behaviour (Ibid).

### 2.7.3 Organisational culture and managers

Organisational culture is typically defined as how an organisation sees itself and how the people within it feel about the organisation (Dwan, 2004). It includes staff commitment to the organisation, how staffs respond to management, and what the organisation stands for (Dwan, 2004). According to Schwartz and Davis (1981, P.33),

‘culture ... is a pattern of beliefs and expectations shared by the organisation’s members. These beliefs and expectations produce norms that powerfully shape the behaviour of individuals and groups in the organisation.’

Dwan (2004), Schwartz and Davis (1981) have offered useful definitions of organisational culture. This is due to the fact that there are direct relationship between human resources and organisations, and culture is a pattern of beliefs and expectations shared by the organisation’s members.

According to Lok and Crawford, (2004), organisational culture can influence how people set personal and professional objectives, manage resources to achieve set objectives and perform tasks. Organisational cultures involve the ways in which people consciously and subconsciously think and make decisions and the ways in which they recognize, feel and act (Hansen and Wernerfelt, 1989; Schein, 1992). Deal and Kennedy (1982) have suggested that organisational culture can apply considerable influence in organisations. They identify areas such as performance and commitment where this is most prevalent. Also, researchers of organisational cultures have proposed different type of culture. For instance, in 1998 Goffee and Jones identified four types of organisational culture, “network”, “mercenary”, “fragmented” and “communal”. Wallach (1983) suggested that there were three main types of organisational cultures; these are “bureaucratic”, “supportive” and “innovation”. However, according to Lok and Crawford (2004), values, attitudes and beliefs are reflected in different national cultures. How personal values fit in with the existing organisational culture and the influence of national culture on personal values could be a major cause of differences in how firms in Iran and the UK are managed (Hofstede, 2001). For example (see Figure 2.7), the existence of high power distance values and a bureaucratic culture in Iranian companies is well acknowledged (Ibid). In Iranian companies important decisions are made by the owner and senior manager (Morrtazavi, Tayab, and Amirshahi, 1999). Owner and executives are on top of any bureaucratic structure in Iranian companies (Ibid). Direction and orders tend to be top-down and there is little delegation or empowerment (Ibid).

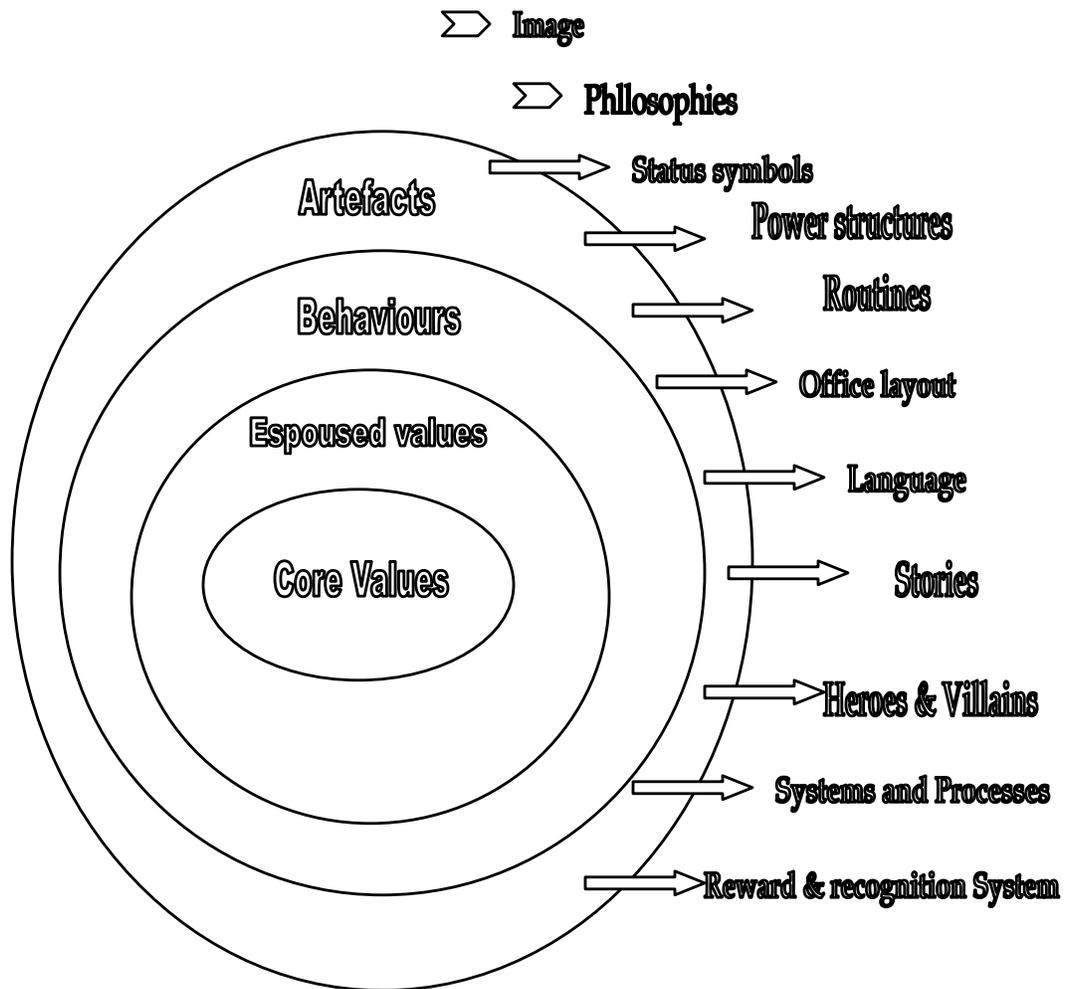
Individual Index	8	Weak Uncertainty Avoidance	Strong Uncertainty Avoidance	1 0 20 30 40 50 60 70 80 90 100 110
	16	Collectivism	Collectivism	
	24			
	32			
	40		* IRAN	
	46			
	56			
	64			
	72			
	80			
88		* England		
96	Weak Uncertainty Avoidance	Strong Uncertainty Avoidance		
104	Individualist	Individualism		

Uncertainty Avoidance Index

**Figure 2.6 Individualism and collectivism source (Hofstede, 2001, P.249)**

When compared with Iranian companies, English ones are different (see Figure 2.7). According to Hofstede (2001), England is a relatively low power-distance country with the values of democracy, equalitarianism and participation being more common. In England, power is legitimised more on performance and value (Ibid). There is better delegation and decentralisation of decision making and control (Ibid). Although, English firms have bureaucratic structures and rules, they are mainly used to coordinate activities and for reporting purposes (Ibid). Iranian companies see bureaucracy as ownership, control and centralised decision making (Mortazavi, Tayab, and Amirshahi, 1999). The basic differences between Iranian and English culture is power-distance, control, decision making and governance, and there seems to be strong evidence that national cultures can influence the firm's organisational culture. However, the differences in national cultures are reflected in how organisations are structured and managed (Mortazavi, Tayab and Amirshahi, 1999). For instance, Iranian companies tend to be owned by founders and families (Ibid). They tend to promote values of high power-distance and collectivism, and have bureaucratic control and centralised decision making with little worker

empowerment (Ibid). On the other hand, English companies tend to be owned by public shareholders and run by professional managers (Hofstede, 2001). They tend to be less bureaucratic and more empowering in their workers, and tend to promote individualism and decentralised decision making (Ibid).



**Figure 2.7 Culture frame work (Kanji, 2002)**

Kanji's (2002) approach divides culture into 4 levels, "core values", "espoused value", "behaviours", and "artefacts". According to Kanji (2002), core values are coming from beliefs and assumptions at the heart of the organisational culture and he argues that core values support all other element of the culture. Espoused values are derived from these basic underlying assumptions and 'espoused justifications of strategies, goals, and

philosophies' and that an organisation tries to hold or temporarily promotes to suit a business need (Ibid). Finally, at the top level are artefacts which are defined as the things we can observe in the work environment (Ibid). Kanji (2002) divided work environments which we can observe to 11, those environments are, "image", "philosophies", "status symbols", "power structures", "routines", "office layout", "language", "stories", "heroes and villains", "systems and processes" and "reward and recognition system". The researcher in this research is going to use these environments for his comparative study between Iran and the UK in the cultural differentiation part of this thesis.

#### 2.7.4.1 Discussion on culture and organisational culture

Organisation will be effective if its members are highly motivated (Demonstrating work commitment and organisational commitment) (Stewart et al, 2006). If we look at organisational effectiveness from this point of view we have to accept the existence of a management function system and behaviour of staffs, which influence the levels of motivation and performance. In addition, management performance and the behaviour of staff predominantly originates from the values, attitudes and beliefs of management and staff in relation to their job and the organisation. However, there is culture which is influenced by national culture in every organisation which influences the behaviour and performance of both management and staff (Schein, 1992).

The culture in an organisation provides a form of organisational actuality, this actuality on form includes both a minor level of individual processes (daily behaviour and the performance of the organisation's members) and a major level of organisational processes (structure design, technologies applied and practical activities). However, organisational culture as a set of common values, beliefs and normalities related to the organisation, and nature of work is continually affected by the environment in which the organisation exists and acts. In fact, the consistency and growth of an organisation depends on the development of its suitable culture in order to respond sufficiently to external environmental forces (Robbins et al., 2006). As the effectiveness of as person depends on this ability to confront environmental

challenges, so the effectiveness of an organisation also depends on environmental compatibility and creating a suitable organisational culture. Management should be sensitive to environmental opportunities and intimidations in order to adopt policies, which provide a better outcome with environment. This sensitivity refers to understanding and responding to three major aspects of environment (Ronnins et al., 2006):

a) Technical- economical    b) political- legal    c) cultural- social

The technical- economic environment is a base for making intimidations and opportunities in terms of technical, financial and human resources which are all considered as the necessities of the effective activity of organisations. So the success of the organisation in properly responding to financial activity challenges, and political environment which is dependents on economic conditions and the level of existing technology.

The Legal and political environment also provides facilitating and preventive conditions for the successful performance of organisations. For example, the consistency of government direction (local, regional, and/or national) generates commercial trust. A juridical system that provides protection against external competition and a base for special working functions, and conventions is considered a limitation or an opportunity for organisational well-being. Political considerations in organisational management and bureaucratic barriers with which management is involves also have an important role in organisational failure.

Finally, a cultural social environment (the national cultural of the individuals who make the organisation) creates some challenges through the people in the organisation and their interaction with customers. The cultural social environment of each society determines values, methods, personal beliefs, attitudes and practical superiorities. Since the activity of an organisation depends on the behaviour and perception of the people who live in that society, organisational behaviour is deeply affected by the

cultural and social environment in which the organisation acts. Hence sensitivity to social and cultural environment is of great importance, especially for the effective management of the manpower in organisation (Bratton and Gold, 2007).

The results of the studies were taken from international commerce and cross- cultural management studies. This has been considered as a factor in organisational effectiveness in a country or among different countries (Bratton and Gold, 2007), and also refers to environmental variables.

However, scientific researchers have questioned the difference between environmental and cultural variables in developing and industrial countries and the way the management can deal with them in order to increase effectiveness. (Rabbins et al., 2006).

Most of our knowledge and information about the quality of the management of human resources in organisations is gained from social science researchers and the theories and management activities in developed countries, especially America and the UK. It should be noted that social technologies and knowledge which have been successful in the cultural and social conditions of one country do not necessarily work effectively in other countries, because environmental variables play a very important role in defining the performance and effectiveness of an organisation.

Those groups of development techniques, which note the cultural- social characteristics of a society, are more suitable for organisations. The situation of industrialised Asian countries such as Japan, South Korea, Taiwan, Singapore, Hong Kong and lately Malaysia is an example for this claim. The success of organisations in these countries results from the management style and work attitudes which are rooted in Confucian values such as loyalty to family and respecting traditional structures, and it is not necessarily related to American and European values (Al-Zamany, 2002). Imitating Western development techniques is based on the idea that the social- cultural characteristics of developing societies, which are generally called “traditionalist”, and it might be harmful for economic development.

However, environmental changes in these dimensions have an important effect on environmental behaviour as well as the behaviour of people and groups in organisations. As Triandrs says, predictability implies the complexity of environment, therefore, many predictable environments are simpler than unpredictable environments and very complicated and simple societies both live in very predictable environments.

The industrial organisation in industrial countries shows a high level of complexity in which many companies are providing products and services. The feature of development means that bases are established very well, offering an experienced work force, and the relationships between commercial companies and the government have been developed to the extent that they facilitate free trade and/or at least, are not a barrier to it. Therefore, the environment of developing countries shows complexity in a different form. Developing countries are no more representing agricultural society and are heading towards becoming industrialized and modernized. Sometimes, the environment of developing countries becomes complicated due to lack of resources for attaining desirable development. Therefore the complexity, is not only made by the existing things but, also, is made by the things don't exist. Organisational objectives, which are usually contradictory, cause some problems for effective management. In addition, the environment of developing countries can be considered relatively unpredictable. In most developing countries the political and legal atmosphere is relatively inconstant. Most of the time they shows some special characteristics of weak societies and it seems that illegal activities have been conventional in these countries. In such environments, access to technical resources and skilled human resources is confronted by many difficulties. So, the challenges which the management in developing countries confronts naturally are different from those the managers in industrial countries confront. Hence, the management of organisations in developing countries need a different approach and distinct abilities in order to achieve success. In order to become consistent with the environment, organisations adopt several techniques such as the lack of long range planning with an unclear view of goals, the absence of time management, the lack of entrepreneurship and low or average risk taking and a behaviour which reflects the lack of trust in the system in responding the

complicated and unpredictable economic and political environment of developing countries. Such impractical techniques, which are adopted for confrontation with environment, act as an obstruction in the effectiveness of organisations. Consequently it is necessary that such issues be noted in providing the theories of indigenous management. (Rabbins et al., 2006)

Thus, making important environmental changes in order to make it easier and more predictable is necessary within the framework of development discussions. The changes that should be made to strengthen proper behaviour consist of providing enough financial resources, raising and lifting the level of professional training, developing technology, preventing political interventions, administrative and judicial reform, training management, extension of time management and reforming reward system.

#### 2.7.4.2 Criticisms of the concept of organisational culture

Although the concept of organisational culture is widely used to aid the study of management and organisations there are those who question its value, for example, those authors associated with 'Critical Management Studies' like Clegg et al, (2006). They have traditionally rejected the analysis of organisations from a managerial perspective that seeks to improve organisational efficiency and effectiveness. In this context one of the best known criticisms of organisational culture as a tool of domination by manager has been put forward by Willmott (1993). He draws attention to what he calls the 'dark side' of the emphasis on organisational culture, which he argues seeks to subjugate and control employees.

Other Writers associated with Critical Management Theory have emphasised cultural fragmentation rather than unity. They have gone on to put concepts such as flux and ambiguity at the centre of their analysis of organisational culture. Lewis et al (2003) provides a useful overview of such approaches in their study of organisational culture in multi-agency development projects. In their research, they tried to give views about anthropologists working on organisation studies, many of whom researchers are critical

of organisations theory. The researches like Peters and Waterman (1982) are almost exclusively positivists, attempting to operationalise concepts so that they can be measured (Wright, 1994). In comparative management studies organisational culture is considered to be a background factor, an explanatory variable and a broad framework in the development and reinforcement of beliefs. This supports a positivist approach to organisational culture. On the other hand, Wright (1994) disagrees, she believes, 'culture is a process rather than thing' which direct us away from viewing organisations as bounded entities seeking to accomplish tasks and challenges us to look more closely at the continuous 'process of organising', which gives meanings and structures everyday organisational life. This view also affects the idea of culture not as a unitary, but as mindsets, or as a complex set of conflicting sub-cultures (Lewis et al, 2003).

Another important critique of organisational cultures questions whether culture itself is the right tool for the analysis of organised action (Ibid). Douglas (1992, P.167) criticises the tendency to use culture as an all-purpose explanation or as 'an extra resource to be wheeled in after other explanations are defeated' (Lewis et al, 2003). Similar view from Kuper (1999), he believes culture is as a 'partial explanation', which needs to put alongside the external environment (politic, economic and social). Douglas (1992) studied a comparative study of labour markets in Britain and Sweden; in his research he believes 'analysis of values and their relationship to organisational forms is far more useful than generalised notion of culture'. Douglas (1992, P.176) explains culture as 'the package of values that are cited in the regular normative discussions that shape an institution'.

However, the researcher believes, several frame works have proven useful for understanding culture difference, like Hofstede, Shein, and Trompenaars. These researchers have helped to establish some relatively universal concepts (e.g., individualism, and power distance) that useful in understanding difference across culture. But, few researchers have attempted to understand the impact these behavioural differences have in different national context. Denison's (2000) research has developed important model of organisational culture and effectiveness and a validated method of

measurement. As the researcher considers, organisational culture dimensions were not as famous as national culture dimensions in finding differences among cultures in organisation studies. Organisational culture dimensions are interesting to examine differences in specific and detailed functions among organisations. Organisational culture dimensions are appropriate for consideration of specific details in organisation. In other words, in this research national culture dimension and organisational culture dimension will be used, because national culture dimensions and organisational culture dimension will be effective to achieving the objective of research.

## 2.8 Summary

This chapter has examined the concept of culture and concentrated on national and organisational culture. Cultural dimensions were also explained. In the opinion of the researcher, dimensions of organisational culture were not as important as national cultural dimensions in explaining differences among cultures in organisation studies in different countries. Organisational culture dimensions are useful when investigating differences in specific and detailed functions among organisation. Organisational culture dimensions are appropriate for consideration of specific details in organisation. However, in this research national culture and organisational culture dimension will be used, because national cultural dimensions and organisational culture dimension will be effective to achieving the objectives of the research.

Although organisational culture is known as a main concept in organisational theory, it has often involved differing and sometimes inconsistent definitions (Bourantas *et al.*, 1990). According to various definitions, organisational culture includes a wide range of aspects of work organisations' life, like basic assumptions, values and artefacts (Schein, 1992); beliefs, rituals, and ceremonies (Sathe, 1983); language, symbols, stories, and ceremonies (Pettigrew, 1979; Wilkins and Ouchi, 1983); and contradictions, ironies and ambiguities (Martin, 2002). Smircich (1983) provides insights into the differing perspectives of organisational culture and argues that organisational culture is viewed as both what an organisation “is” and as what an organisation “has”. The intense interest in the association of culture with the different facets of organisational effectiveness in the 1980s and 1990s generated a great deal of research in which culture was examined in a positivistic light. Such studies treat organisational culture as a variable. Those who viewed organisational culture as what an organisation “is” adopted a qualitative methodology (e.g. Martin *et al.*, 2006; Alvesson, 2002; Schein, 1996). However, other researchers who used an integrated approach, combining qualitative and quantitative methods in their empirical studies (e.g. Hofstede *et al.*, 1990; Denison and Mishra, 1995; Fey and Denison, 2003). This research explores the association of culture with TQM, and qualitative and quantitative methods will be used.

Many cross-cultural researchers have investigated different organisations in different countries by using national culture dimensions and organisational culture dimension together. To a great extent national culture dimensions complete the objective of cross-cultural research. In this research, Hofstede's national culture dimension like power distance, uncertainty avoidance and individualism will be more useful to measure the national culture, and Denison dimension will be more useful to measure the organisational culture, because the researcher is looking for impact of organisational culture and national culture on total quality management. Those dimensions are appropriate, because the researcher believes that they are important when making international comparisons between Iranian and the UK society and organisations. Therefore, the above explanation leads us to propose the important effect of cultural differences on management and total quality management in organisation.

It is clear after considering the culture, national culture and organisational culture that this research needs an in depth study in Iran and the UK. This type of study is required to give readers a clear view of culture in Iran and the UK, and this opens the door to understand organisational culture differences across different countries.

## **Chapter Three (Total Quality Management)**

### 3. Introduction

Total quality management (TQM) has been a fundamental business strategy of the world's leading organisations, such as Xerox, Motorola etc., throughout the 1980s and 1990s. Much has been written on the TQM philosophy and methods by quality practitioners or gurus such as Crosby (1979), Deming (1986) and others. These individuals have been highly critical of western management practices and have used Japan as an example for the development of their concepts and principles. While western managers have been preoccupied with the debate on trade policies, Japanese managers have been achieving vast improvements in organisational performance by reducing defect rates, increasing reliability levels, and product performance by applying the basic principles of TQM (Karthi, 2004).

Now the researcher is going to explain TQM with definition of quality and quality management and total quality management and then examine some theories of TQM.

#### 3.1. Definition of Quality and Total Quality

In this part the researcher will explain quality, in the second part the researcher will explain Total Quality, and in the next section the researcher will explain Total Quality Management by using important contributions from the literature.

In terms of TQM, it is important to know what quality means. Quality is something such as size, colour, feel or weight that makes one thing different from other thing or according to Bright and Cooper, "Quality" is often used as an adjective, and has become synonymous with elegance and luxury. A more accurate use refers to comparative degree of excellence by which products and services may be judged.'(1993, P.21)

Other authors like, Juran (1988), Crosby (1984), Feigenbaum (1986), and Deming (1986) have different view about quality. Their definitions of quality as Flood (1995, P.42) said in his book, include:

- ‘Quality is fitness for use- Juran (1988)
- Quality is conformance to requirements- Crosby (1984)
- Quality is in its essence a way of managing the organization- Feigenbaum (1986)
- Quality is a predictable degree of uniformity and depend ability, at low cost and suited to the market- Deming’ (1986)

The definition of quality depends on orientation and purpose of the individual involved. According to Reeves and Bednar (1994), no single definition of quality fits every situation with respect to measurement, usefulness to management, and relevance to customers. However, Garvin (1987) explains the multidimensional nature of quality by explaining a five bases’ system with eight dimensions. The five bases’ system are; “transcendental”, “product”, “user”, “manufacturing”, and “value”. The eight dimensions are; “performance”, “features”, “reliability”, “conformance”, “durability”, “serviceability”, “aesthetically”, “perceived quality”. Consequently, organisations must meet one or more of these dimensions and they need to determine which of these are crucial in the eyes of the customer.

As TQM deals with quality it seems reasonable that an essential step toward understanding the meaning of TQM would require an understanding of the word quality and all of these definitions shows satisfaction of customers’ needs and the demand of customers at the centre of the concept of quality. For example, Juran (1974, P.2-2) considers quality as ‘fitness for use’. Juran’s definition emphasizes the customer perspective. It is the customer who decides what products or service to buy. This implies that the user determines the quality of the products or service that best satisfies his/her needs. According to Juran (1994), quality is achieved when the requirements or expectations of the customer from goods or service are satisfied. This reflects his strong orientation towards meeting customer expectations.

The new researchers are not any different from the quality gurus in defining quality and emphasising the satisfaction of customer as an indicator of quality. Bregman and Klesfjo (1994) consider the quality of the product, as its ability to satisfy the needs and

expectations of the customers. In addition Oakland (2003, P.4) offers a convenient definition of quality, which is free of many of the ambiguities in some other attempts, it is 'meeting the customer requirements'. These needs may include availability, delivery, reliability, maintainability, and cost effectiveness, among many other features, (Oakland, 2003). Its clear that there is a similarity between two researchers' definition of quality (Oakland, and Juran) as both of them suggest quality is the most important aspect of customer expectations. These efforts to define the term quality are only a small but important sample of those found it in the literature. Furthermore, it is clear that the main aspect of definitions is the customer, except Crosby's definition, which is a manufacturing based one but even here quality will a part of the products, which customers require.

### 3.2. Definition of Total Quality Management (TQM)

The concept of TQM can have the same elusiveness as the many definitions of "quality". As Reed et al. (1996) indicated, there is no consensus on the definition for TQM. TQM definitions can vary based on the approach taken toward quality.

Flynn et al. (1994) defined TQM as:

'An integrated approach to achieving and sustaining high quality output, focusing on the maintenance and continuous improvement of processes and defect prevention at all levels and in all functions of the organisation, in order to meet or exceed customer expectations.'

The literature on TQM shows that there is general harmony on the importance of quality management and on the basis in which it should be managed (Gehani, 1993, Raturi and McCutcheon, 1990). One of the interesting explanations of this is from Hill and Wilkinson (1995). They argue that Total Quality Management (TQM) is a 'notoriously imprecise term' and according to Hill and Wilkinson (1990) there are number of reasons for this. One of the reasons is the many authors on quality management have been short

on analysis but long on prescription and another reason is that practitioners like to use the term to explain a very wide range of practices (Ibid).

However Hill and Wilkinson (1995) make further important points in the discussion about the meaning of Total Quality Management. One is that quality experts have been disinclined ‘... to refer to previous management literature or indeed to reference much outside quality management field’ (Ibid). However, this literature tries to identify and define the basic elements of Total Quality Management (TQM), and Hill and Wilkinson (1995) recognise TQM as a way of managing or philosophising management by drawing from work by Crosby (1979), Deming (1986), Feigenbaum (1983), Ishikawa (1985) and Juran (1980). In their opinion, TQM is an organisation-wide approach based on three important elements. These elements are “customer orientation”, “process orientation”, and “continuous improvement”.

These three elements, as discussed, are implemented in a specific manner and the mode of implementation’s is itself a definition of TQM’s future. Implementation is by means of appropriate improvement tools, measurement systems and the processes of management and organisation.

According to Zairi and Youssef (1995) TQM is:

‘A positive attempt by the organisation concerned to improve structural, infrastructure, attitudinal, behavioural and methodological ways of delivering to the end customer, with emphasis on consistency improvements in quality, competitive enhancements, all with the aim of satisfying or delighting the end customer.’

Orkland in (2000) explains TQM as ‘a comprehensive approach to improving competitiveness, effectiveness and flexibility through planning, organizing, and understanding each activity and involving everyone at each level’.

Another way to see TQM is to divide TQM in three words:

- Total
- Quality
- Management

Quality means satisfying customers' requirement continually (Kanji, 1990) whilst, total quality is to achieve quality at low cost. Total quality management aims to obtain total quality by involving everyone's daily commitment.

This highlights the fact that TQM is not just a program or a group of specific techniques; relatively it is "a management approach" and a "culture", which implies a shift in an organisation's collective thinking and operation (Sashkin and Kiser, 1992).

### 3.3. The Quality Gurus

The theoretical root of TQM can be marked out to the work of Walter Shewhart in Statistical Process Control (SPC) at the Bell Laboratories in the United States during the 1920. Shewhart's plan was to develop a system to measure variables in production. However, Shewhart designed the Plan-Do-Check-Act cycle, which applied the scientific method to improve the work process (Evans and Lindsay, 2001).

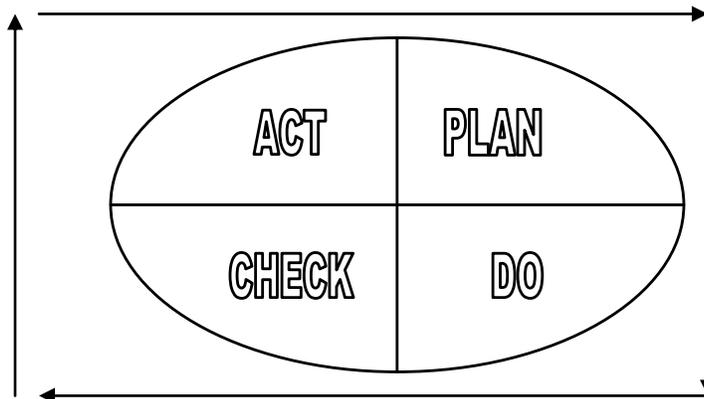


Figure 3.1 0 Plan-do-check-act (Evans and Lindsay, 2001)

Additionally, the PDCA cycle is a structured approach to continuous improvement and problem solving known as the Deming / Shewart cycle. Deming generalised the PDCA cycle to any type of improvement activity and made it an integral part of quality improvement. Deming (1986) recommends this cycle as a model for improvement and as a procedure for finding special causes of variation.

However, Shewhart's work was on the statistical control of process and the control chart established a foundation for the quality of management movement (Evans and Lindsay, 2001). Following Shehart, the three main persons lead the way in the quality movement emerged, "Edward W. Deming", "Joseph M. Juran", and "Philip B. Crosby". The contribution of Deming, Juran, and Crosby to improving quality has had a profound impact on countless managers and organisation around the world. Other, theories, important to the revolution in quality management, include Armand V. Feigenbaur, Ishikawa, Bill Conway, Genichi Taguchi, Shigeo Shingo, and W.G. Ouchi. In the next sections, I will explain these contributors to our present day understanding of TQM.

### 3.3.1 Deming Philosophy

Deming was the first to introduce quality principles to the Japanese on a large scale. He met Schewart in 1927. It was from him that Deming learned the basic concept of statistical quality control and Deming is now a national hero in Japan. Deming went to Japan and started them on the path to Total Quality and to be competitive. His thrust was by the use of statistics to improve quality and productivity. This has resulted in high/quality low cost products giving value for money to the customer. Deming's theory on quality is summarized in his "14 points" as Flood (1995, P.15) summarizes below:

- 1) 'Create constancy of purpose to improve product and service,' (Deming, 1986) with the aim to become competitive and to stay in business, and to provide.
- 2) 'Adapt a new philosophy for new economic age.' (Flood, 1986) We can no longer live with commonly accepted levels of delays, mistake, defective materials and defective workmanship.

- 3) 'Cease depends on inspection to achieve quality by building quality into the product'. (Deming, 1986) instead, require statistical evidence that quality is built into the product in the first place.
- 4) 'End awarding business on price.' (Deming, 1986) Purchasing must be combined with design of products, manufacturing, and sales, to work with chosen suppliers to minimise total cost, not merely initial cost.
- 5) 'Aim for continuous improvement of the system of production and service to improve productivity and quality, and to decrease costs.' (Deming, 1986) To improve quality and productivity and thus constantly decrease costs. It is management's job to continually work on the system.
- 6) 'Institute training on the job'. (Deming, 1986)
- 7) 'Institute leadership with the aim of supervising people to help them to do a better job.' (Deming, 1986)
- 8) 'Drive out fear so that everyone can work effectively together for the organization.' (Deming, 1986) So that everyone may work effectively for the company.
- 9) 'Break down barriers between departments.' (Deming, 1986) People in organization, design, sales, and production must work as a team to tackle usage and production problems that may be encountered with product and service.
- 10) 'Eliminate slogans, exhortations and numerical targets for the workforce since they are divisory, and anyway difficulties belong to the whole system.' (Deming, 1986, P.16)
- 11) 'Eliminate quotas or work standards, and management by objective or numerical goals.' (Deming, 1986) When companies improve the quality, product will be improve automatically.
- 12) 'Remove barriers that rob people of their right to pride in their work.' (Deming, 1986)
- 13) 'Institute a vigorous education and self improvement programme.' (Flood, 1995, P.16)
- 14) 'Put everyone in the economy to work to accomplish the transformation.' (Deming, 1986, P.16)

When we think about the 14 points of Deming view, we can find many strengths and some weakness. According to Flood (1995, P.17) the main strengths are, ‘Deming make a notable prioritisation-that management comes before technology ... leadership and motivation of employees are recognised as important.’ We can see of his strengths, Deming has most focus on leadership and motivation of employees. And different cultures like Japan and North America have responded to in different ways. For example the Japanese like work group work but North Americans prefers individual work. But the main things is, Deming outlined a new theory of management based on 14 points, which ‘... provide criteria by which anyone in the company may measure the performance of management’ (Deming, 1986).

### 3.3.2 Joseph Juran

Juran is regarded as one of the prime architects of the quality initiative in Japan. In 1951 he published the first edition of quality control’s handbook, which later became a seminal work in the area and provided him with high reputation as member of the quality gurus. He was assigned to the inspection function at Western Electric Hawthorne in 1924.

His approach to quality involved three basic processes. These processes are: quality planning, quality control and quality improvement. According to Juran, quality planning starts from identifying the process and the customer. This definition of the customer includes external and internal customer.

By quality control, Juran meant that attention must be given to the critical element that needed to be controlled. This requires identification of such elements as, definition of measures and methods of measurement, and establishment of performance standards. In this regard, Juran advocated quality control to be delegated to the lowest possible level, and that if possible, it should be accomplished by the workers responsible for doing the task. This requires widespread training in data collection and problem-solving techniques.

Juran believes that quality is the responsibility of all employees rather than of a specialised department. He emphasised the concept of management for quality and getting it right first time rather than inspecting it into finished product.

He called the errors made during the initial planning as chronic waste. He also created the concept of cost quality (Juran, and Gryna, 1993), as he felt that a cost measure would be an effective form of communication with management as he agrees with Deming that quality problems are mostly attributed to management, not workers.

However, Juran is unlike Deming according to Flood (1995, P.18), Juran's view is, 'the vast majority of quality issues are the direct responsibility of management.' He said, introducing quality into an organisation has to start at top level of organization.

Juran stresses 3 main points (Juran, 1988):

- 1) "Quality planning", it has the following steps:
  - 'Determine quality goals
  - Develop plans to meet those goals
  - Identify the resources to meet those goal
  - Translate the goals into quality
  - Summarise first 4 steps into a quality plan' (Juran, 1988, P.19)
- 2) "Quality control", it means having a simple feedback structure:
  - 'Evaluate performance
  - Compare performance with set goals
  - Take action on the difference' (Juran, 1988, P.19)
- 3) "Quality improvement", that means improve on by past these:
  - 'Reducing wastage
  - Improving delivery
  - Enhancing employees' satisfaction
  - Becoming more profitable
  - Ensuring greater customer satisfaction' (Juran, 1988, P.19)

Juran's philosophy and main principles are clear enough but some argue that these points show his concern about recent work in quality has lost touch with the basic management needs of organisations (Flood, 1995, P.19). Too often we think that the customer is the customer, the end receiver of the product or service. But the customer according to Juran, (Juran, 1988, P.20) should both 'internal and external; anyone who we are providing a product or service to.'

### 3.3.3 Philip Crosby

Crosby described quality as free and argued that Zero defects was a desirable and achieved goal. He believes that the cost of running a quality programme in an organisation can be more than offset with the financial benefits of satisfied customer. Crosby's quality definition is 'conformance to requirements' his saying is 'quality is free'.

He recognized that improving quality through increasing inspection efforts would increase cost; he insisted that the way to achieve zero defects was to improve prevention measures and techniques.

Crosby (1979) developed what he called the four absolutes of quality management to articulate his view of quality:

1. Quality means conformance to requirement, and requirement needed to be clearly specified so that everyone knew what was expected them.
2. Quality comes from prevention, and prevention was a result of training, discipline, example, leadership, and more.
3. Quality performance standard is zero defects. Errors should not be tolerated.
4. Quality measurement is the price of non-conformance.

Crosby proposed a 14 points programme to improve quality:

- Demonstrate management commitment by being convinced that quality improvement is needed and subscribing to a written quality policy. This policy should specify clearly that each person is expected to perform exactly as specified or cause the specification to be changed to match the needs of the company or the customer.
- Form quality improvement teams. These should be cross-functional and include department heads to oversee the quality improvement process. The team of department heads should be responsible for promoting quality through the entire company.
- Establish measurements for quality in all activities. Although many of these measures could be error rates, he also included some others. As examples, he suggested that accounting could use the percentage of late reports; plant engineering could use time lost because of equipment failures.
- Evaluate the cost of quality and use it to identify where quality improvement could be profitably made.
- Raise the awareness of quality through the organisation. Get employees involved by making them aware of costs.
- Take corrective action to improve quality in areas identified in the previous steps.
- Plan for Zero defects. Using members of the quality improvement team, plan a zero defects program that fits the company and its culture.
- Train all employees to carry out their part of their quality improvement program.
- Hold a Zero Defects Day to signal to all employees that the company has established a new performance standard.
- Encourage people to set goals for themselves and their groups. These goals should be specific and measurable, and progress should be measured against them.
- Remove obstacles that prevent employees from achieving these goals by encouraging them to report this obstacle management.
- Provide recognition for those who participate. This should be public and non-financial.
- Establish quality councils consisting of team chairpersons and quality professionals. They should meet regularly, share experiences and generate ideas.

- Do it all over again to stress that quality improvement is a continuous process.

Crosby also developed a management maturity grid in which he lists five different stages that include uncertainty, awakening, enlightenment, wisdom and certainty. In the uncertainty stage, management fails to see quality as tool, fire fighting is the means to handle problems, which are rarely resolved, and there are no organised activities for quality improvement. However, in the fifth stage, certainty, the organisations is persuaded that quality is important and essential for success, problems are generally prevented, and quality improvement activities are organised, regular and continuing.

### 3.3.4 Armand Feigenbaum

Early in 1950s Feigenbaum (1991) defined total quality as ‘an effective system for integrating the quality development, quality maintenance, and quality improvement efforts of the various groups in an organisation so as to enable production and service at the most economic levels which allow ‘customer satisfaction’.

Feigenbaum originated the industrial cycle, which includes marketing, design, production, installation and service elements. This industrial cycle is considered nowadays essential in the quality management in an organisation, and in managing a quality management as BS EN ISO 9000 (James, 1996).

Feigenbaum also champions the idea of the hidden plant. This introduced the idea that waste lowered the real capacity of a plant because of rework and not actually getting it right first time. Unlike other gurus who argued that their approaches can be used for any process in the organisation, Feigenbaum limits his focus on the quality of the products or service produced by the organisation (Feigenbaum, 1983).

Feigenbaum believes that quality organisation must provide some bases for world class quality leadership to succeed in the global market of the 1990’s. He mentions three major requirements for such world class quality leadership:

- Full understanding of the market
- Quality strategy to satisfy the customer in the global markets.
- Development of quality organisation culture and an environment promoting and fostering quality leadership.

### 3.3.5 Kaoru Ishikawa

An applied chemistry graduate from the University of Tokyo in 1939, Ishikawa advocated the use of statistical methods and fully committed his life to the promotion of Total Quality throughout Japan. Ishikawa was best known for his contribution to quality management through statistical quality control.

He developed the fishbone diagram (Known as Ishikawa diagram) and the employment of other important tools of the quality movement. This helped improving the capabilities of Japanese organisations in the usage of problem solving techniques. These tools are: cause and effect ‘fishbone’ diagram, Pareto analysis, histograms, check sheets, scatter diagrams, control charts, process control charts, and satisfaction graphs.

Ishikawa defined the customer as the next person in the line, the person who gets your work, and anybody who relies on you. He initiated the quality control circles, which involved forming teams of workers to solve problems related to quality.

Ishikawa’s philosophy is based on his belief of workforce education. Educated workers can deal with quality problems as they can understand the problems and can implement the solution with the support of management.

Ishikawa realised the value of using teams in solving quality related problems. Quality circles were formed from 5-10 workers who understood the problem and who could implement the solution. On a voluntarily basis, workers form circles to solve a problem or to make use of an opportunity for improvement. If the solution was considered

appropriate by those workers, they standardise the activities to become part of their daily work. The process used by the circle was a standard process that all Japanese companies were trained to implement by the Japanese Union of Scientist and Engineers.

Ishikawa was a strong believer in the philosophy of company – wide quality control. He created methods that could be taught to large number of people. He used the concepts developed by Deming and Juran and brought them to level of the common worker.

### 3.4. Evolution of Total Quality Management

The concept of quality has evolved gradually. The development in the perception and management of the quality movement can be directly traced back to the roots of the principles of scientific management in the work of Shehart (1931), Crosby (1979), Ishikawa (1985), Deming (1986), Juran (1988). They along with others have provided a steady stream of contributions to the field of quality management. Zairi (1994) outlines the evolution of quality concepts and points out that they have evolved from two extremes:

- From control driven to culturally driven: and
- From controlling-in to managing-in quality

Feigbaum (1991) identified the following six phases in the evolution of quality:

1. Operator quality control was developed before 1900. In this stage, one worker or very small group of workers was responsible for the manufacture of products. (Each worker could easily control the quality of his or her own work) (Ibid)
2. Fore man quality control was practised between 1900 and 1918. It started about as a result of mass production, which is characterised by the division of labour, specialisation of skills and standardisation. The classical management approach known as the scientific management method was initiated by Fredrick Taylore and became very popular. Workers performing similar tasks were grouped under

- the supervision of a foreman who then assumes responsibility for the quality of his group's output.
3. Inspection quality control was developed during the First World War. By World War II, the manufacturing system had become more complex and large numbers of workers were reporting to each foreman who could quite easily have lost control of the work. As a result, it was necessary to engage full-time quality inspectors.
  4. Statistical quality control peaked in the period between 1937 and 1960. There became an increased need for quality inspection in the late mass-production era because the volume and variety of components increased dramatically. Due to the huge costs involved in quality inspection, Taylor's scientific management approach became inappropriate. Statistical quality control concentrated on the statistical tools and made the quality inspection rather than complete inspection. However, its slow growth was not due to its development of technical and statistical ideas but to other problems, which included process capability, incoming material control, design control and ability of business. Consequently, the fifth phase, total quality control, was evolved. As organisations began looking for better ways for management to reduce inspection costs, Deming (1986) introduced the ideal of statistical quality process control to aid Japanese industries in their post-war reconstruction. The importance of quality control was now widely recognised in the business world. Deming taught the Japanese statistical techniques as a means of ensuring quality in production. He also offered his fourteen points as the quality improvement path.
  5. The Total Quality Control (TQC) phase started in the 1960's. Organisations that adopted TQC found it possible to examine designs regularly, to analyse while the products was in process and to take action at the manufacturing stage or source of supply. It also provided the structure in which early statistical quality control tools could be joined by additional techniques. For example, reliability, quality information equipment, and quality motivation were linked with modern quality control and with the overall quality function of business. During the 1960, some

researchers like Feigenbaum (1991) and Ishikawa (1985) extended the idea of quality control and considered its management implications. The strategic focus, which concentrated on customers, broadened the responsibility and scope of quality control. This quality approach expanded beyond statistics and included ideas of quality systems, quality costs, and quality assurance. It was known as total quality control (Feigbaum, 1991) and included Total Quality Management.

6. Total Quality Management (TQM) is a term that was initially coined by the Department of Defence in the United States (Evans and Lindsay, 2001). TQM evolved during 1980 and began to have a major impact upon management and engineering approaches to long-term success through customer satisfaction. It is based on the participation of all members of an organisation in improving process, products, services and the culture which they work. Garvin (1988) outlined the evaluation of TQM as the outcome of four major eras of development. Garvin (1988) described the evolutionary process where quality has moved from an initial stage of inspecting, sorting and correcting standards to an era of developing quality manuals and controlling process performance. The third stage was to develop systems for third-party certification, more comprehensive manual including areas of an organisation other than production, and the use of standard techniques such as SPC. The present and fourth era of TQM is primarily strategic in nature with continuous improvement as its driving force.

Mongelsdorf (1999), in tracing the evaluation of TQM thought and application, has provided an up-to-date indication of how the various threads of TQM theory have worked together to create the immediate, present-day impact of TQM. That present impact Mangelsdorf (1999) argues as “an integrative management system based on TQM”, as opposed to simply “quality management”. In his view, companies themselves, through their exposure to and involvement with the various quality theories and concerns over time, have extracted, implemented, adapted, and refined whatever was essential for themselves. By the 1990’s quality programmes for productivity and innovation had been intensified to respond to new, often harsh,

world conditions and possibility. Quality management provided the basis for “a new approach in business management for the turn-around” (Mangelsdorf, 1999).

### 3.5 Quality management in the global context

International/global quality management aims at understanding quality management in the global context. Kathawala and Nanda (1989) were the first to address this issue. However, the importance of global quality management, its definition, components and essentials first appeared in a special issue on global quality management in the *Journal of Decision Sciences* (1995, Vol. 26, P.5). Kim and Chang (1995) argued that international/global quality management should be researched systematically. They conceptualised global quality management (GQM) as the next generation of TQM. They defined GQM as:

‘The strategic planning and integration of products and processes to achieve higher customer acceptance and low organisational disfunctionality across country market’ (Kim and Chang, 1995)

The concept of GQM serves as the motivation for developing a global quality management standard for evaluating quality management practices between countries (Rao et al., 1999). It also affect the practice of quality management, from the national to global level (Kim and Chang, 1995, Chase, 1998), which helps firms to compete globally and gain a competitive edge in the global market (Chase, 1998. Fawcett et al, 2000, Liu and Kleuner, 2001, Dervitsiotis, 2001). To be competitive globally, firms need to have a leadership role in quality (Feigenbaum, 1994). The study of global quality management serves as a benchmarking tool for achieving this competitive advantage (Jarrar and Zairi, 2001), and a basis for international language and business performance in the global context (Feigenbaum, 1997).

Early studies on international quality practices were mainly focused on developed countries such as the US and Japan (Benson et al., 1991, Ebrahimpour & Johnson, 1992,

Garvin, 1986, Flynn, 1992, Hull et al, 1988, Reitsperger and Daniel, 1991, Raval, 1992, Richardson, 1993, Rogers, 1993), Moreover, the empirical literature has extended its scope by studying and comparing quality management practices in other developed and developing countries, for example India (Rao et al, 1997, Sarkar, 1990, Jagadeesh, 1999), Denmark (Dalgaard et al., 1990), US and Taiwan (Madu et al., 1995, Solis et al., 1998), China (Rao et al, 1998), Australia (Sampon and Sohal, 1990), Mexico (Solis and Rao, 1997, Solis et al, 1998), Singapore (Sohal et al., 1998), Asia and the South Pacific (Corbett et al., 1998), East and West (Russia, Taiwan, Japan, Korea, Finland, Estonia, Denmark, India, Sweden, England, and New Zeland) (Dahlgaard et al, 1998), Costa Rica (Tate et al, 2000), UK (Dayton, 2001), US, Mexico, China and India (Quazi et al., 2002), UK and Ireland (McAdam and Jackson, 2002).

While the above studies focus on the practice of quality management between countries there is also interest in understanding the practice of quality management within countries, including Greece (Tsiotras and Gotzamani, 1994), Korea (Lee and Crouch, 1995, Lee, 1998), Canada (Laszlo, 1998), Taiwan (Solis et al., 1998), South America (Bertin, 1999), Scotland (Masson and Raeside, 1999), Russia (Eklof and Selivanova, 2000), China (Zhang, 2000), Malaysia (Agus et, al., 2000, Agus and Sagir, 2001), Spain (Escanciano et al, 2001), Turkey (Beskese and Cebeci, 2001), Pacific Island (Djerdjour, 2002), Germany (Janas and Luczak, 2002), and Australia (Rahman, 2002).

The essence of most of the above studies was to understand the critical success factors of TQM. However, as Sila and Ebrahimpour (2003) indicated, the question regarding the universality of quality management practices has not been answered yet, and more empirical, cross-country and industry-specific research is indeed on quality management.

There is also an emerging trend of increasing quality management studies in Middle Eastern countries (Al-Sulimani and Sharad, 1994, Al-Khalifa and Aspinwall, 2000, Al-Zamany et al., 2002). The same trend is observed in Africa (Perry, 1997, Thairu, 1999, Beugre and Offodile, 2001, Temtime and Solomon, 2002, Temtime, 2003). The essence of all the above studies was reaching a global model for quality management practices.

However, there is still literature available on the quality system implementation in developing countries (Djerdjour and Patel, 2000).

Thus, it should be noted that in spite of all of this research, TQM is still in the early stages of theory development (Dale et al., 2001, Taiwo, 2001), Now, rather than being a separate discipline, it is still a part of operations management, this is changing and TQM is becoming an independent discipline (Dale et al., 2001). Accordingly, to develop a global quality management model that is time and context-free as well as to achieve an agreement on TQM principles, it is essential that quality management practices in all regions of the world be empirically studied. The generalisability of quality management practices in the global context requires studying quality management practices in other parts of the world that have not been studied empirically, including the Middle East.

### 3.6 TQM in the Middle East

The pace of the implementation of quality management in the Middle Eastern countries is not at the same rate as in developed regions and countries (Al-Khalifa and Aspinwall, 2000, Chapman and Al-Khawaldeh, 2002, Al-Zamany et al., 2002). However, there is increasing awareness and understanding of quality management in the Middle East region (Dedhia, 2001). Most countries in the Middle East were not aware of the impact of quality management on the productivity, efficiency and competitiveness of their organisations. In fact, two trends were considered as the driving forces of quality management practice in Middle Eastern countries: globalisation and the fluctuation of petroleum and gas prices in the world market (Al-Khalifa and Aspinwall, 2000). The dependence of the national economy of most Middle Eastern countries on the price of oil/gas and the cyclic rise and fall of petroleum products in the world market forced Middle Eastern countries to implement quality management in the oil/gas industry as well as other industries, including public, private, and manufacturing industries (Al-Khalifa and Aspinwall, 2000).

The literature on quality management has paid little attention to quality management in developing countries and little empirical research has been carried out in developing countries, especially Middle Eastern countries (Al-Khalifa and Aspinwall, 2000). The first Persian Gulf international quality conference held in Bahrain in 1990 was the first movement toward quality management in Middle East (Dedhia, 2001). Early studies on the implementation of quality management in the Middle Eastern countries began around 1994. Al-Suleimani and Sharad (1994), Aly (1996), and Zairi (1996) addressed the challenges and problems for organisations in the Middle Eastern countries. These studies were further enhanced by a limited amount of national empirical research. The first study was implemented in Qatar (Al-Khalifa and Aspinwall, 2000). Taking a national approach for understanding of the level of implementation of TQM in Qatar, they found that the level of understanding of TQM was very low in the organisations. A short history of TQM implementation, lack of information, education, and training, and lack of understanding of TQM “know-how” was reported as the major challenges for TQM implementation in Qatar.

Some other studies have also contributed to the understanding of TQM implementation in Middle Eastern countries. Chapman and Al-Khawaldeh (2002) studied the relationship between TQM and labour productivity in Jordanian industrial companies. They found the productivity of employees in companies have TQM was higher than companies without TQM. The other study done in Yemen, addressed the level of understanding and difficulties of implementing quality management in Yemen (Al-Zamany et al., 2002). Using case studies, the researchers found that governmental support, better technical understanding of TQM, and changes in organisational culture were the problems for successful TQM implementation in Yemen. The study by Curry and Kadasah (2002) also contributed to the practice of quality management in the Middle East. Their study was conducted in Saudi Arabia, aimed at determining the key elements of TQM in companies; they found that learning the concept of quality management is critical for successful implementation of TQM.

### 3.7 TQM in Iran: historical perspective

Quality management initiatives did not start in Iran until the end of the 1980's. The first five-year economic development program, which began in 1980, was the main driver for emphasis on quality in the country. The initiative first began by presenting workshops on quality management and quality assurance in a governmental institution, the Industrial Management Institution (IMI). Also, economic relationships with certain European countries (such as Germany, France, Italy) were a key reason for the application of ISO 9000 standard in Iran, where the first company received its certificate in 1989, registered by Societs Generale de Surveillance (SGS). This movement urged companies to practice quality management through the implementation of ISO 9000 standard.

The second movement toward quality management began around 1993, having its origin in the automobile industry. The automobile industry in Iran was established around 1960, but its technological capacity was not developed much beyond assembly and maintenance. There was a national interest (mostly among the policy makers) for further developing this industry. The government decided to restructure the automobile industry, which was mainly integrated. The strategy was to disintegrate it, to provide the required infrastructure for it, and finally to develop the national car. Thus, the government began to invest in the automobile industry (labour, capital), collaborate in agreements with a few European countries (France, Germany), and provide support (financial/technical) for the automobile part makers.

The first movement in that regard started with collaboration with Peugeot. The two corporations, Iran Khodro and Peugeot, signed a contract to produce Peugeot cars in Iran. Along with that, the KIA Motors Company, from South Korea, established a production line in Iran. It was during that period that QS-9000 standards were developed and internalised in the automobile industry in Iran. This trend encouraged consulting firms to seek more business opportunities for the automobile and automobile part makers, to the extent that some of them changed their business strategy and mainly focused on the automobile industry.

Despite all these efforts to develop quality management practices, still there is not a national model to be considered by Iran as the official quality model. This is the challenge for the Institute of Standards and Industrial Research of Iran to develop a national quality management model to effectively encourage and recognise the development of effective quality management in Iranian companies (Asian Productivity Organisation, 2002).

According to the Mahmoud Saremi et al. (2009), a little attention has been paid by Iranian researchers and the institute of standard to the role of external and consultants in the successful implementation and operation of TQM in Iranian organisation. In this chapter and the next the lack academic research on TQM in Iran is one issue the researcher is concerned about for his study.

### 3.8 Summary

This Chapter explained the meaning, principal tools and techniques of TQM. The evolution of TQM developed between the 1950's- and 1990's, as quality changed its function with the passage time. TQM gurus have contributed to the training and practice of quality improvement and others concentrated on the tools of quality. The gurus set down points of wisdom in management and leadership and many organisations used these to establish a policy based on quality. TQM tools are ways to display information visually and to help managers or those responsible for quality and performance and see how a system or process is operating.

To continue with the literature review a study on implementation and operation had to be taken which will be looked at in the next chapter.

## **Chapter Four (TQM Implementations and operations)**

## 4. Introduction

On the current world market, both manufacturers and consumers require guarantees for the quality of products and services. Now it is no longer sufficient to provide products and services that merely conform to certain standards. All manufacturers and service organisations need to demonstrate their capability to provide a continuous quality for their products and services. This is why all businesses and public organisations need to set up quality systems enabling them to guarantee that required quality is obtained at the appropriate cost, and also taking environmental concerns into consideration. But choosing the right model for the organisation is one of the important issues.

There are many indicators and trends recognized by organisations, including: the expanding world market, and national and international organisations that demonstrate excellence in quality and overall achievement of an enterprise. Several national quality award schemes have been established to promote productivity and quality and serve as model for Total Quality Management, which, it is generally accepted today deals with creating competitive value for customers while keeping resource consumption to a minimum (Flood, 1995, P.19). Iranian organisations like other companies around the world need to survive and grow in the world market. They also need true commitment, and high quality products to compete with international companies. The usual way to do this is to apply TQM. By applying TQM in Iranian organisations, Iranian companies can achieve high quality standard services and processes to compete with international companies. Since 1998 Iranian companies have been trying to apply TQM in their organisation. However, according to a study by Mosadegh Rad, (2003) in Iran, 90 percent of TQM efforts failed outright. This evidence points to an important concern; Iranian organisations need to establish a new strategy towards quality management (Mosadegh Rad, 2003).

## 4.1 The Malcolm Baldrige Quality Award

The Baldrige Award is specified by the President of the United States to businesses manufacturing and service, small and large, and to education and health care organisations that apply and are judged to be outstanding in seven areas: leadership; strategic planning; customer and market focus; measurement, analysis, and knowledge management; human resource focus; process management; and results (Evans and Lindsay, 2001). According to the Baldrige criteria (2009), the objectives of the award were:

- 1) Awareness of performance excellence as an increasingly important element in competitiveness
- 2) Information sharing of successful performance strategies and the benefits derived from using these strategies

According to Pannirselvam and Ferguson (2001), the Malcolm Baldrige National Quality Award (MBNQA) criteria have evolved to be a measurement of organisational quality since 1987; this is a guideline for companies moving towards performance excellence. However, Evans and Lindsay (2001) mention that Baldrige Award criteria are made on a set of core values and concepts derived from real world experiences that can be applied to any type of organisation. According to Baldrige Award (2009) core concepts are:

- visionary leadership
- customer-driven excellence
- organisational and personal learning
- valuing workforce members and partners
- Agility
- focus on the future
- managing for innovation
- management by fact
- societal responsibility

- focus on results and creating value
- systems perspective

These values and concepts are embedded beliefs and behaviours found in high-performing organisations. They are the foundation for integrating key performance and operational requirements within a results-oriented framework that creates a basis for action and feedback.

Despite application of Baldrige criteria in practice, few theoretical or empirical studies have been reported in the literature. Such research as exists on the Baldrige model falls into two categories (Flynn and Saladin, 2001). First, the Baldrige model has been used as a framework for operationalising quality management (Samson and Terziovski, 1999, Dow et al, 1999, Handfield et al., 1998, Dellana and Hauser, 1999). The initial application of the Malcolm Baldrige model as a frame work for identifying quality management constructs was described by Steeples (1992). The second set of studies examines the validity of the Baldrige framework (Wilson and Collier, 2000, Curkovic et al., 2000, Pannirselvam and Ferguson, 2001).

However, according to Brock (1992) and Evan and Lindsay (2001), the MBNQA is considered good and appropriate model for implementing and operating TQM. However, according to Matta et al. (1996), in a study of MNBQA winners, found difficulties in implementing TQM are rooted in three causes: 1) the holistic change of corporate culture; 2) achieving and maintaining employee acceptance of TQM; 3) integration with suppliers and customers.

## 4.2 The European Quality Award

The European Foundation for Quality Management (EFQM) business excellence model was developed in 1989 by 14 multinationals grouped in the European Foundation of Quality Management to improve the quality of management in Western Europe (Westerveld, 2003). The EFQM Excellence Model provides an holistic view of the

organisation and it can be used to determine how these different methods fit together and complement each other. The Model can therefore be used in conjunction with any number of these tools, based on the needs and function of the organisation, as an overarching framework for developing sustainable excellence. (EFQM, 2010)

The EFQM model is used to measure and improve the overall quality of an organisation. One of the important characteristics of the EFQM-model is that it model distinguishes (Ibid):

- Result Areas: Results that organisation has achieved
- Organisation Areas: Management of the organisation

The EFQM excellence model consists of nine criteria, five of these are “Organisation Areas” and four are “Results”. The Organisation areas cover what an organisation does; they are those basics of the business that need to be optimised to achieve the desired objectives. The results criteria cover what a company has achieved and is achieving (Ibid). Figure 4.1 shows the framework for the European Quality Award.

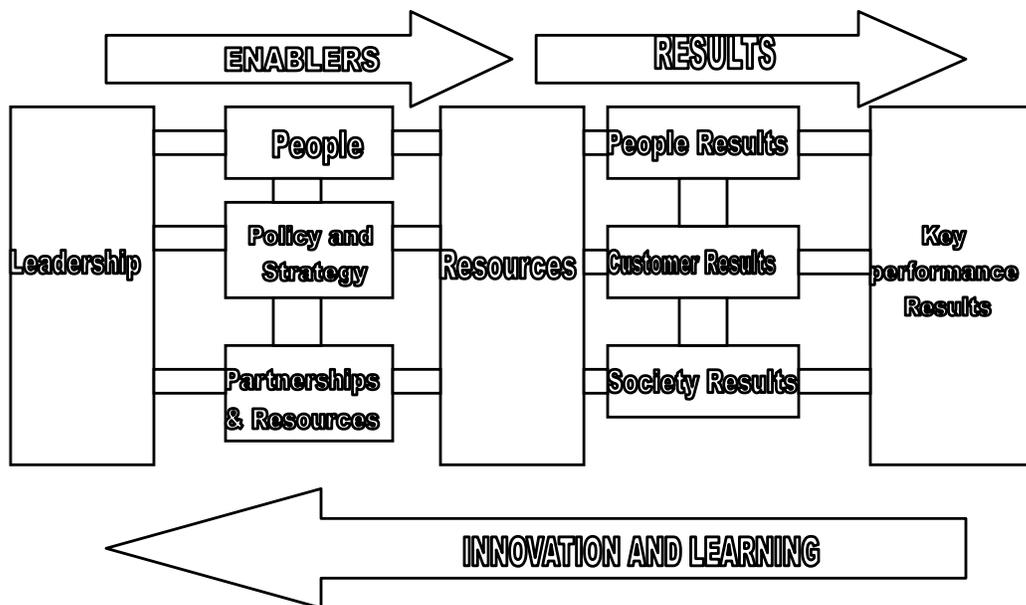


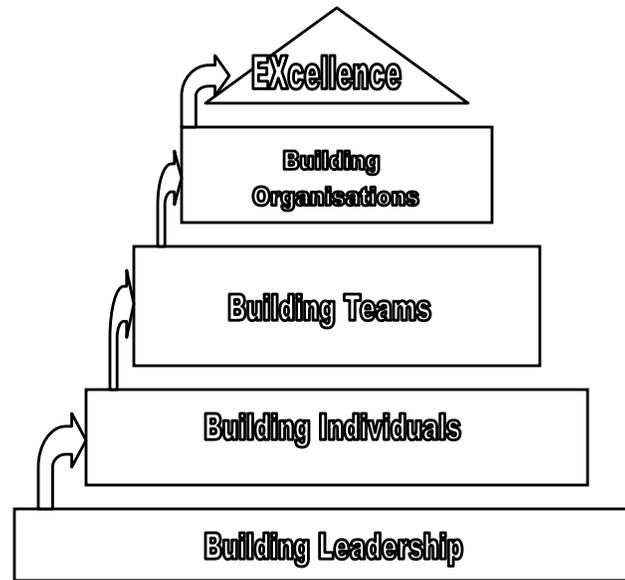
Figure 4.1 The structure and criteria of the EFQM model (EFQM, 2010)

Dahlggaard et al., (2002), for self-assessment used the EFQM Excellence model, and argued that the foundation of strategies is to improve “the 4P” in the following order: 1.”people”, 2.”Partnership”, 3.”Processes”, and 4.”Products”. Dahlggaard explained how in Post Denmark a breakthrough in people attitudes and organisational culture happened and became the foundation for a new culture focusing on change, continuous improvements and everybody’s participation. As a result of the first-assessment survey in Post Denmark, according to Dahlggaard et al., (2002, P.4), these areas were identified as strategic improvement areas, (1) “People”, (2) “Processes”, and (3) “Customer”. Dahlggaard continues, by explaining that the people area, education, self-directed teams and a suggestion system were introduced for improving performance, and Post Denmark started to identify, describe, and improve the core business process. The third area was customer results.

According to Dahlggaard et al., (2002, P.4), some of the critical improvement areas identified that were:

- ‘Leadership: the managers should have more attention to personal core values such as trust, openness, respect etc.
- Policy& Strategy: there was a need for improvements in the yearly strategic planning process; employees should be more involved in this process.
- People: there was a need for a better evaluation of people’s competencies and achievements, and better recognition of people.
- Process: there was a need for more people involvement, better measurements, ownership, and information on best practises.’

As Dahlggaard et al., (2002, P.3) said before, Post Demark used the EFQM Excellence model to self-assessment and the EFQM Excellence model will help other companies to build quality and organisational excellence. (See Figure 4.2)



**Figure 4.2 A structure for building quality into people and organisation excellence (Dahlgaard, 2002, P.4)**

Dahlgaard et al.,(2002, P.3) argue that, for building an organisation, many organisations are looking for organisational excellence but not many organisations have been able to achieve this goal, because management does not have a deep understanding of what it really means to be excellent. The British Quality Foundation used Business Excellence in their report in 1998, and the differentiating characteristics were shown in the following list (Dahlgaard et al., 2002, P.3):

- 1) “Management commitment to the business excellence “journey”
- 2) Effective strategic planning
- 3) An emphasis on people issues through empowerment and training
- 4) Unprecedented levels of employee participation through effective communication of and involvement in the organisation’s goals, mission and objective
- 5) Process understanding, management, measurement and improvement
- 6) Deliberately avoiding “jargon” to ensure a seamless integration of business excellence practices
- 7) Nurturing a culture which focuses implicitly and explicitly on anticipating and serving customers’ needs

- 8) Demonstrating concern for better environment management
- 9) Making the internal spread of best practice contagious”

The important thing about Dahlgaard et al., (2002) research in Post Denmark was using business excellence for self-assessment. This can help companies to develop a strong organisational culture and help to achieve successful Total Quality Management (TQM).

### 4.3 The Deming Prize

The Deming Prize is Japan’s national quality award for industry (Deming prize, 2009). It was established in 1951 by the Japanese Union of Scientists and Engineers (JUSE) and it was named after W. Edwards Deming. Deming introduced statistical quality control methodology to Japan after W.W.II. The Deming Prize is the world’s oldest awards for quality. Its principles are a national competition to seek out and commend those organisations making the greatest strides each year in quality, or more specifically, TQC. The prize has three award categories. They are Individual Person, the Deming Application Prizes, and the Quality Control Award for factory. The Deming Application prizes are awarded to private or public organisations and are subdivided into small enterprises, divisions of large corporations, and overseas companies.

Evans and Lindsay (2001) emphasize that only a small number of awards given each year, because they believe the awards are an indication of the difficulty of achieving the performance required. The objectives of Deming’s reward are to make sure that company has completely set up the process and to make sure, they are going to continue their way even after the awarded.

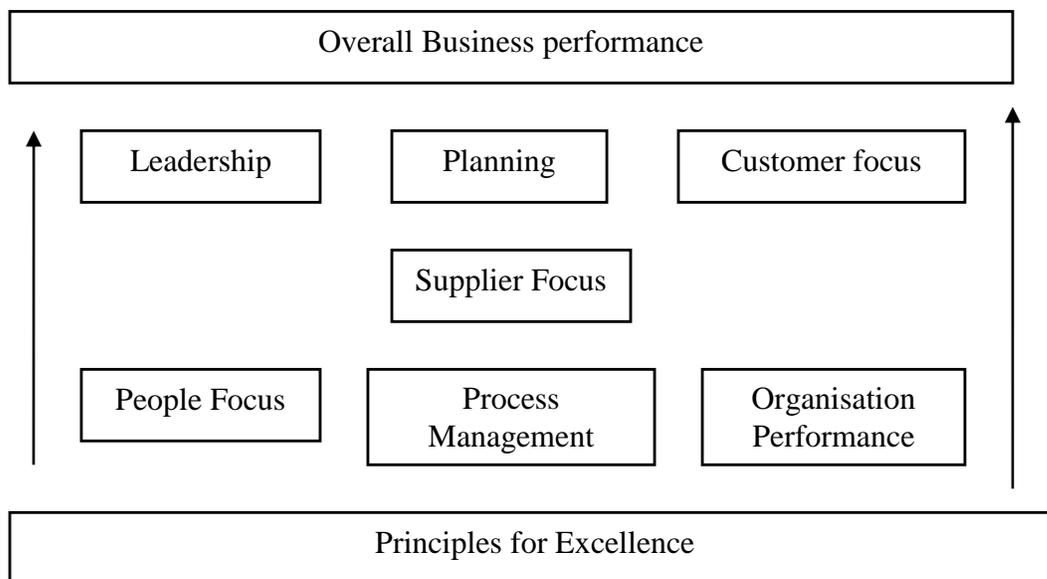
## Check list of application for Deming Award

Item	Particulars	Item	Particulars
1. Policy	<ol style="list-style-type: none"> <li>1. Policies pursued for management quality, and quality control</li> <li>2. Method of establishing policies</li> <li>3. Justifiability and consistency of policies</li> <li>4. Utilization of statistical methods</li> <li>5. Transmission and diffusion of policies</li> <li>6. Review of policies and the results achieved</li> <li>7. Relationship between policies and long- and short-term planning</li> </ol>	6. Standardization	<ol style="list-style-type: none"> <li>1. Systematization of standards</li> <li>2. Method of establishing, revising, and abolishing standards</li> <li>3. Outcome of the establishment, revision, or abolition of standards</li> <li>4. Contents of the standards</li> <li>5. Utilization of statistical methods</li> <li>6. Accumulation of technology</li> <li>7. Utilization of standards</li> </ol>
2. Organization and its Management	<ol style="list-style-type: none"> <li>1. Explicitness of the scopes of authority and responsibility</li> <li>2. Appropriateness of delegations of authority</li> <li>3. Interdivisional cooperation</li> <li>4. Committees and their activities</li> <li>5. Utilization of staff</li> <li>6. Utilization of QC Circle activities</li> <li>7. Quality control diagnosis</li> </ol>	7. Control	<p>Systems for the control of quality and such related matters as cost and quantity</p> <p>Control items and control points</p> <p>Utilization of such statistical control methods as control charts and other statistical concepts</p> <p>Contribution to performance of QC circle activities</p> <p>Actual conditions of control activities</p> <p>State of matters under control</p>
3. Education and Dissemination	<ol style="list-style-type: none"> <li>1. Education programs and results</li> <li>2. Quality- and control-consciousness, degrees of understanding of quality control</li> <li>3. Teaching of statistical concepts and methods, and the extent of their dissemination</li> <li>4. Grasp of the effectiveness of quality control</li> <li>5. Education of related company (particularly those in the same group, sub-contractors, consignees, and distributors)</li> <li>6. QC circle activities</li> <li>7. System of suggesting ways of improvements and its actual conditions</li> </ol>	8. Quality Assurance	<ol style="list-style-type: none"> <li>1. Procedure for the development of new products and services (analysis and upgrading of quality, checking of design, reliability, and other properties)</li> <li>2. Safety and immunity from product liability</li> <li>3. Customer satisfaction</li> <li>4. Process design, process analysis, and process control and improvement</li> <li>5. Process capability</li> <li>6. Instrumentation, gauging, testing, and inspecting</li> <li>7. Equipment maintenance, and control of subcontracting, purchasing, and services</li> <li>8. Quality assurance system and its audit</li> <li>9. Utilization of statistical methods</li> <li>10. Evaluation and audit of quality</li> <li>11. Actual state of quality assurance</li> </ol>
4. Collection, Dissemination and Use of Information of Quality	<ol style="list-style-type: none"> <li>1. Collection of external information</li> <li>2. Transmission of information between divisions</li> <li>3. Speed of information transmission (use of computers)</li> <li>4. Data processing statistical analysis of information and utilization of the results</li> </ol>	9. Results	<ol style="list-style-type: none"> <li>1. Measurements of results</li> <li>2. Substantive results in quality, services, delivery time, cost, profits, safety, environments, etc.</li> <li>3. Intangible results</li> <li>4. Measures for overcoming defects</li> </ol>
5. Analysis	<ol style="list-style-type: none"> <li>1. Selection of key problems and themes</li> <li>2. Propriety of the analytical approach</li> <li>3. Utilization of statistical methods</li> <li>4. Linkage with proper technology</li> <li>5. Quality analysis, process analysis</li> <li>6. Utilization of analytical results</li> <li>7. Assertiveness of improvement suggestions</li> </ol>	10. Planning for the Future	<p>Grasp of the present state of affairs and the concreteness of the plan</p> <p>Measures for overcoming defects</p> <p>Plans for further advances</p> <p>Linkage with the long-term plans</p>

**Table 4.1 Edited by subcommittee of implementation award for Deming prize (Revisio, 1992)**

## 4.4 The Canadian Quality Award

The Canada Award for Excellence (CAE) is an annual award to recognise private and public companies for performance excellence. The Canadian Ministry of Industry introduced the Canada Award for business Excellence in 1984, but changed the programme in 1989, to reflect the MBNQA concept (Vokurka et al., 2000). The quality criteria for the Canadian Award for Excellence (figure 4.3) are similar in structure to those of the Baldrige Award with a few key differences (Evans and Lindsay,2001).



**Figure 4.3 Canadian framework for business excellence (Vokurka, 2000)**

The major categories and items within each category for 2000 are (Vokurka, 2000):

- 1) Leadership (170 points), this element focuses on those who have primary responsibility and accountability for the organisation's performance; this element's primary focus is on the organisation's "strategic direction", "leadership involvement", "outcomes" and "continuous improvement".
- 2) Planning (130 points) this element relates to the planning process in regards to improvement, the linkage of planning to strategic direction/intent, and the measurement of performance to assess progress; this element's primary focus is

- on the organisation's "development and content", "assessment", "outcomes" and "continuous improvement".
- 3) Customer focus (200 points), this element relates to the organisation's focus on customer driven innovation and on the achievement of customer satisfaction; it focuses on "voice of the customer", "management of customer relationships", "measurement of customer satisfaction", "outcomes", and "continuous improvement".
  - 4) People focus (200 points), this element relate to development of human resource plan for meeting the goals of the organisation, and achieving excellence through people. This element's focus is on the organisation's "human resource planning", "participatory environment", continuous learning", and "employee satisfaction".
  - 5) Process management (200 points), this element relates to how work is organised to support the organisation's strategic direction, with a specific focus on quality assurance practices, as well as continuous improvement, this element focus is on the organisation's, "process definition", "process control", process improvement", "outcomes", and "continuous improvement".
  - 6) Supplier focus (180 points), this element relates to the organisation's external relationships with organisations, institutions and alliances; it focuses on the organisation's "partnering", "outcomes", and "continuous improvement".
  - 7) Organisation performance (200 points), this element relates to the outcomes from overall efforts for improvement, and their impact on organisation achievement, it focuses on the organisation's "service/product quality", "operational results", "customers and market place", "employee satisfaction and morale", "financial performance".

## 4.5 Dubai Government Excellence

This award is part of the Dubai Excellence program, which was concerned to develop the performance of the government sector. The important concern of the Dubai award is to improve the official governmental working environment throughout all departments, in ways such as increasing public satisfaction, developing resources, eliminating unnecessary official procedures, documenting organisation, and encouraging innovation and development of potential (Dubai Government Excellence program, 2006)

Specific objectives and principles of the Dubai government excellence are summarised as follows (Dubai Excellence Program, 2006):

- The programme emphasises leadership by the government in representing co-operation with positive competition
- Efficiency, quality and rationalisation of expenditure are sought.
- Awareness of quality is promoted as the private is consolidated and enhanced.
- Evaluation of performance is standardised, and government employees are motivated

The overall concept of the programme is directed toward modernisation; incentive reward is its basis; the Arabic language is the official language; participation is mandatory for department, administration, administrative excellence and vocational/occupational excellence groups.

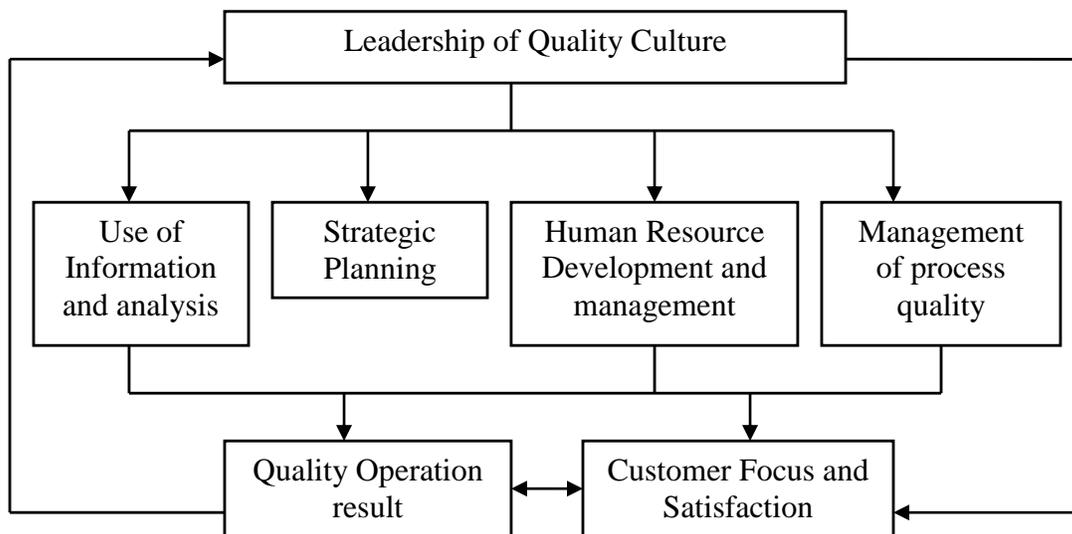
## 4.6 Singapore Quality Award

For the first time in 1994 the government of Singapore established the Singapore Quality Award (SQA, 2009). The main objective was to encourage organisations to do their best for business performance at world-class standards. The SQA follows the model of the Malcolm Baldrige, the European, and the Australian Award. Strengthening of management systems is encouraged. Benefits to organisations include provision of a

framework for comparison against world-class standards. Winners use the SQA symbol for publicity. All applicants receive feedback from improvement (SQA, 2009).

The award framework has seven core values. These are:

- 1) Leadership of quality culture
- 2) Use of information and analysis
- 3) Strategic planning
- 4) Human resources development and management
- 5) Management of process quality
- 6) Quality and operational result
- 7) Customer focus and satisfaction



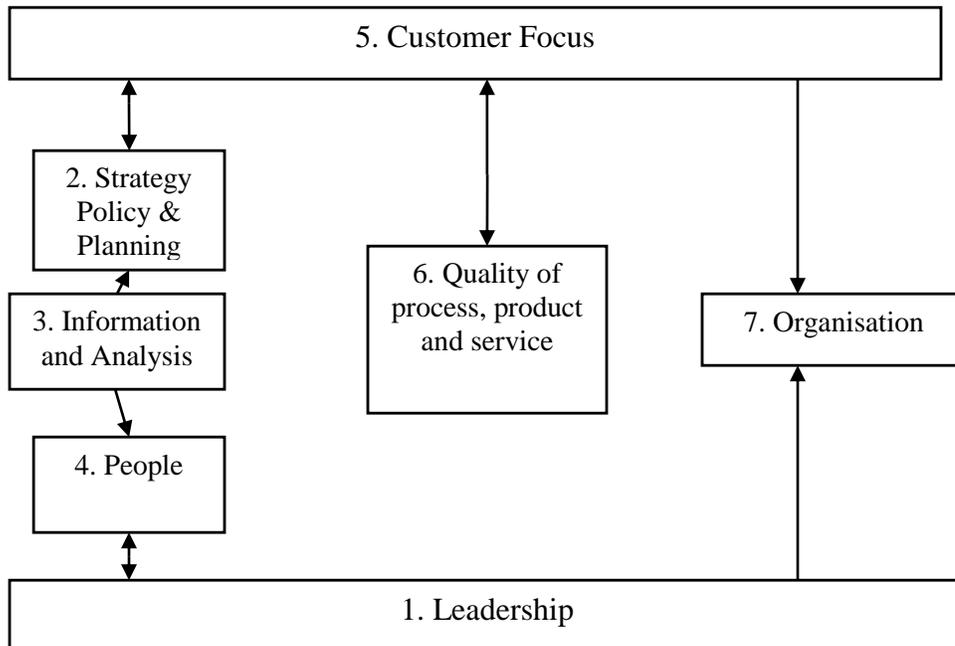
**Figure 4.4 Singapore quality award frameworks (SQA, 2009)**

The framework of the award (Figure 4.4) is established by three basic elements, which connect and integrate the above criteria. These elements are (SQA, 2009):

- 1) Driver, senior executive directions and guideline excellence
- 2) System, well-defined process for performance requirement
- 3) Result, continuous improvement of customer value and organisation performance.

## 4.7 Australian Quality Award

The Australian Quality Award was introduced in 1988 and, therefore, is of the same age as MBNQA (Zink, et al. 1997). It is awarded by the Australian Quality Council. The Australian Quality Awards Foundation is responsible for the evaluation and selection of applicants. The award was established to enhance quality awareness in Australian organisations. As it recognizes excellent performance in improving the quality of products, processes and services it gives a motivation to follow successful forerunners. The Australian Quality Award should emphasize that total quality is crucial for Australia's international competitiveness and the standard of living "down under". The model's structure is presented in figure 4.5.



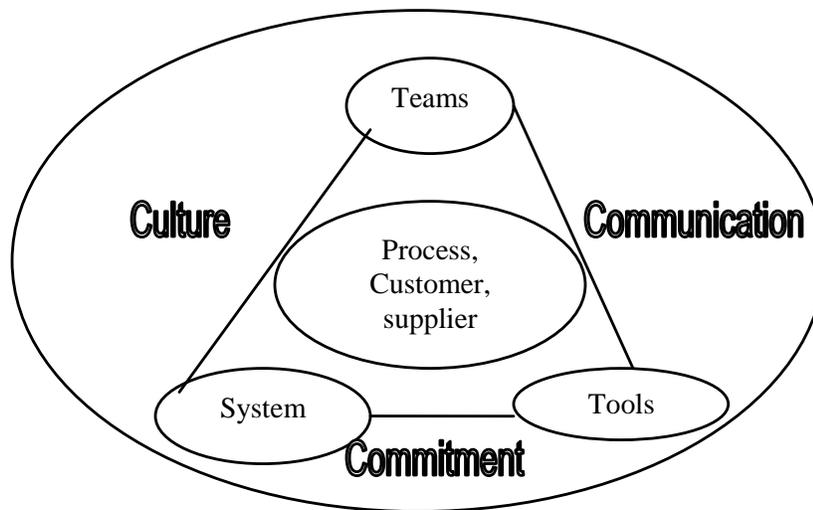
**Figure 4.5 Australian quality criteria framework (Canchick, 2001)**

The objective of the award programme is to develop and deploy a comprehensive and contemporary body of quality principles and best practices (Canchick, 2001). The award measures quality performance through seven categories of criteria: (1) "Leadership", (2) "Strategy, Policy & Planning", (3) "information and Analysis", (4) "people", (5) "Customer Focus", (6) "Quality of process, product and service", and (7) "organisation" (Ibid). According to the model, people, information and analysis, and strategy, policy and

planning categories have the greatest effect on the quality of processes (Ibid). The quality of the processes, in turn, affects organisation performance (Vokurka et al., 2000). Customer focus and leadership are the main elements, relating with all parts of the model (Ibid).

#### 4.8 Models Proposed by Quality Experts and Consultants

In addition to the proposed principles and models offered by quality gurus, there exist a growing body of literature by their disciples and consultants describing the factors and characteristics needed for the effective implementation of TQM. Burr (1993) states that there are as many as models of TQM as there are quality experts and he continues, “There is no one size fits all” model. However, according to Boaden and Dale (1994), the different models put forwards by experts can help companies in the implementation process. For example, Oakland (2000) develops the following model for TQM in the UK.



**Figure 4.6 Oakland's model for TQM**

The main objectives of this model are the identification and management of processes within the organisation (Oakland, 2000). Processes are seen as a chain of internal and external customer supplier relationship that must be managed effectively and efficiently. According to Oakland this model highlights three “hard” element of TQM; these are

“teamwork” and “system” for quality, and “tools” for quality improvement. It also highlighted three “soft” elements of TQM, “Communication”, “Commitment” and “Culture”.

A four-sided “Pyramid” model of TQM’s structure was developed by Kanji et al. (1993). The model showed a set of four general governing principles. Each principle is translated into practice using the core concepts. The pyramid vase is formed by “leadership”, which emphasises its critical role in making TQM happen. Table 4.2 shows the principles and concepts of the “pyramid” model (Kanji et al., 1993).

General Principles	Core Concepts
Delight the customer	Customer satisfaction Internal customers are real
Management by fact	All work is a process Measurement
People-based management	Teamwork People make quality
Continuous improvement	Continuous improvement Cycle Prevention

**Table 4.2 Principles and concepts of "pyramid" model (Kanji et al., 1993)**

This pyramid Model developed by Kanji (1998) is used to create the business excellence model. The business excellence model begins with “leadership”, which serves as a prime factor that must be transmitted through all principles and core concepts in order to achieve business excellence. The four principles include, “delight the customer”, “management by fact”, “people-based management”, “and continuous improvement”.

Each principle is divided into two core concepts, namely: customer satisfaction and internal customers are real. All work is process and measurement; teamwork and people make quality; continuous improvement cycle and prevention.

Kano in 1993 used an interesting concepts to show the structure of TQM; that concept is “The House of TQM”. The first pillars of the house include both “theory of quality” and “theory of management”. Customer satisfaction PDCA cycle (Plan, Do, Check, and Act) includes practices that promote the concepts. Actual practices are based on concepts from the second pillar (techniques) for collecting and analysing data, of which the seven QC tools and statistical methods are typical. At this point, some practices for effectively and efficiently promoting these two pillars within the organisation become necessary. Management by policy like continuous improvement and training, and management by fact like employee involvement are practices that can be called the third pillar.

However, Evans and Lindsay (2001) suggested that TQM is an approach to management that is grounded on these three core principles:

- 1) A focus on the customer
- 2) Participation and team work
- 3) Continuous improvement

The principles are supported and implemented by

- An integrated organisational structure
- A variety of management practices
- A wide variety of tools and techniques

According to Evans and Lindsay (2001), TQM structure (organisational infrastructure, management practices and tools/techniques) must include leadership, strategic planning, data/information management, process management, and resource management.

Some interesting recommendations to achieve the successful implementation of TQM are put forward by Brocka (1992). Brocka recommended seven principles and these principles are:

- 1) Commitment and participation from top leadership
- 2) Build and sustain a culture committed to continuous improvement
- 3) Focus on satisfying customer needs and expectations
- 4) Involve every individual in improving his/her own work process
- 5) Create teamwork and constructive working relationship
- 6) Recognise people as the most important resource
- 7) Employ the best available management practices, techniques and tools.

In 1997 Zeitz proposed TQM dimensions based on theoretical and empirical studies. The dimension Zeitz proposed are: “management support”, “suggestion”, “use of data”, “supplies”, “supervision”, “continuous improvement”, “customer orientation”, “social relationships”, and “communication innovation”. Zeitz (1997) and other experts believe that these dimensions are key requirements for successful implementing TQM.

Grahn (1995) suggested a model with five key elements of TQM, and figure 4.7 illustrates the five drivers of TQM and their relationships:

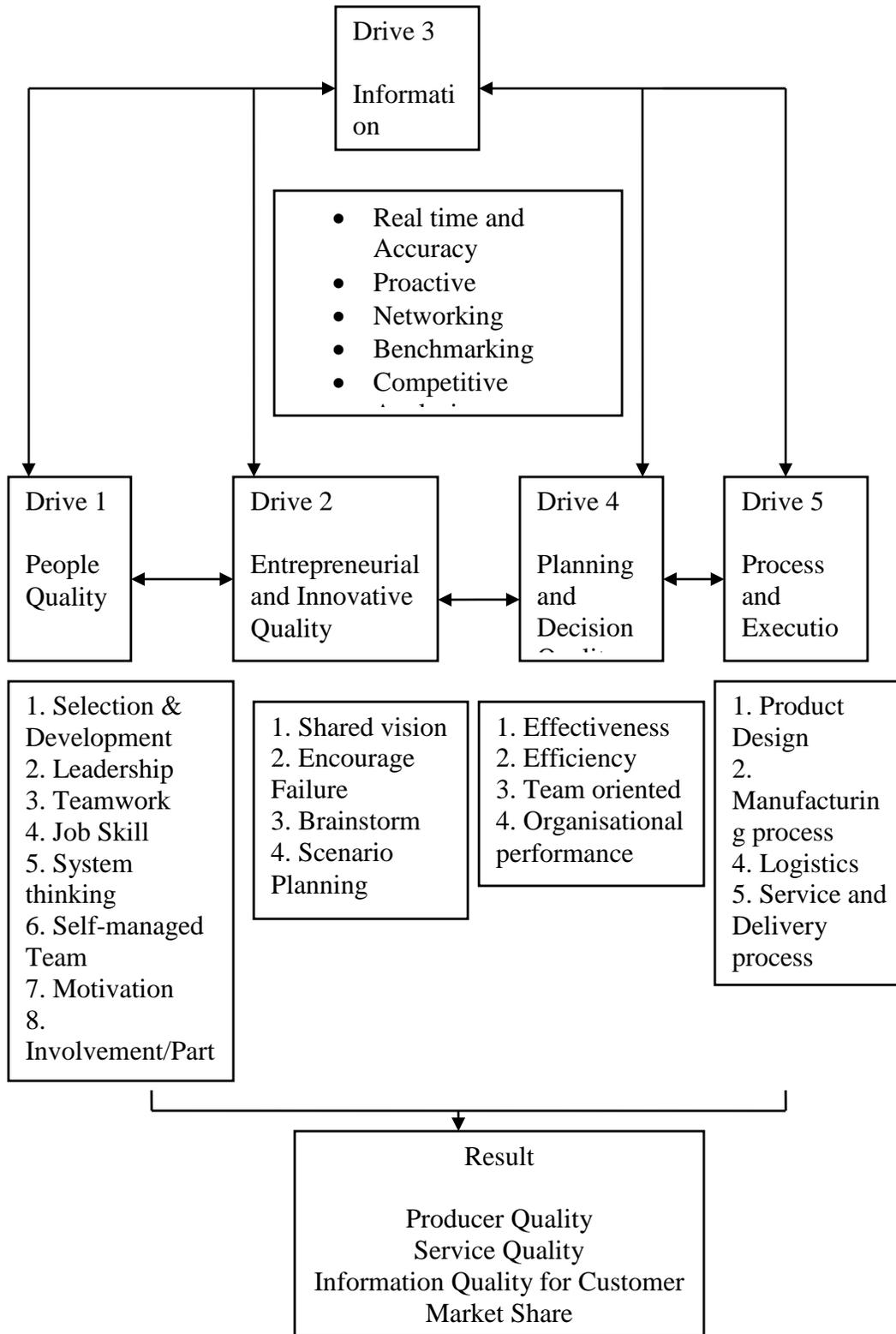


Figure 4.7 Grahn's five drivers of TQM model (Quality progress, 1995, P.65)

This model aims to show all five drivers in a balanced way such that it considers the organisation's underlying systematic structure and how each of the elements influences the other.

However, according to Stamatis (1997) the basis for TQM is management through leadership. He argues that in one organisation when leadership has been defined, then a policy, resources, and general management will lead the TQM process. Stamatis (1997) identified five assumptions required to implement TQM, which can be seen in the figure 4.8.

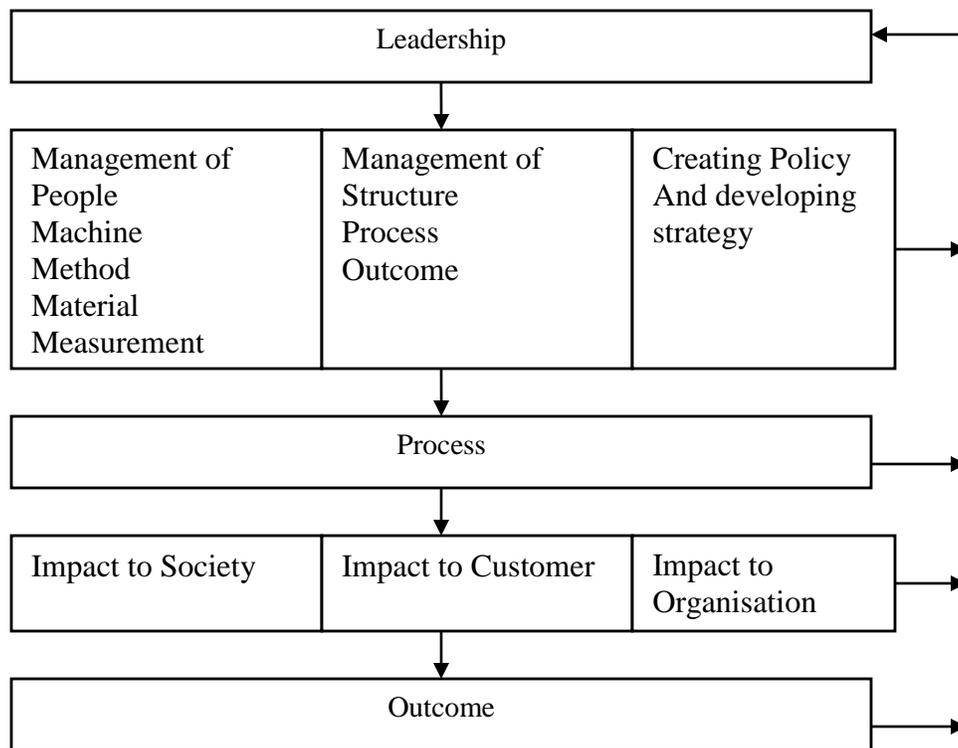


Figure 4.8 Stamatas' five assumption required to implement TQM (Stamatis, 1997)

## 4.9 Quality Factor of TQM Implementation

### 4.9.1 Introduction

Baidoun and Zairi (2003) argue 'quality is an important consideration for executive thinking'. According to Kanji and Yui (1997), basic characteristics of the organisation, such as its culture, this can affect the implementation of TQM. The drive to improve quality, therefore, has to be managed differently. This part shows the important factors of TQM implementation identified by researchers and supported by the writing of quality gurus.

### 4.9.2 Implementation factors

#### 4.9.2.1 Leadership

Leadership has an important role in quality management. According to Feigenbaum (1989), 'getting quality result is not a short-term, instant-pudding way to improve competitiveness; implementing total quality management requires hands-on, continuous leadership'. The role of leadership and top management have been emphasised in most of the literature on TQM. While some principles and practices of TQM may differ between companies and industries, there is an almost common agreement as to the importance of leadership by top management in implementing TQM. According to Joel (1993) leadership is a prerequisite to all strategy and action planning. In fact, in the total quality management process, top management has to understand the meaning of quality and TQM. For example, even senior management has to be convinced of its benefits to the organisation, and acknowledge the fundamental change it will bring in the running of the organisation.

However, according to Zairi (1999) given the importance of leadership, it is not surprising to find that in all quality awards, leadership issues are not only placed at the top of the list of criteria but also are emphasised in the other criteria as necessary to make implementation successful. On the other hand, Robin and Denis (1995) point out that

TQM aims to encourage a participative style of management throughout the organisation and that an organisation with this style of management is likely to be keener towards TQM and it will have less need to change its system and communication structure. Jacqueline and Shapiro (2003) in their study argue that a participative supervisory style is positively related to employee participation and that the extent of employee participation is positively related to the assessments of the benefit of TQM. Furthermore, participation in an improvement structure represents a major vehicle by which employees can contribute to continuous improvement (Lawler, 1994).

However, it is argued that organisations with an authoritative style of management, wherein employees/manager who are promoted, are aggressive, career minded, and not team workers, are likely to find it more difficult to cope with pressures of TQM implementation (Baidoun, 2003).

Throughout the literature, leadership has been at the top with management commitment as an essential precondition for successful quality management (Baidoun, 2003, Porter and Parker, 1995, Wilkinson et al, 1994). In this respect, Hamzeh and Zairi (1996) say that all the top managers in the five companies they analysed were personally involved in formulating, communicating, and implementing TQ initiative. In their study, Johnston and Daniel (1991) in their conclusion say senior management visited on both side of the Atlantic, assumed active responsibility for the success of TQM in their companies. In a similar study in Thailand, Krasachali and Tannock (2000) reported that TQM implementation is highly unlikely to be successful with-out top management support. In all companies considered, it was obvious that total quality activities were fully supported by senior management.

In 1982, Deming said that within a 'Total Quality Organisation', the role of leadership is one of understanding processes and variation, having a sense of the customer, understanding human psychology, and having respect for people in the organisation. Pulat in 1994 argued the importance of strong management leadership as the most important element of TQM. According to Pulat (1994) such leadership involvement

includes regular meetings with customers, employees and suppliers with other organisation, giving formal and informal recognition, receiving training and training others. Their visible personal involvement in developing and maintaining an environment that is conducive to quality excellence is needed for TQM to succeed. Senior management also develops and communicates key company quality values which place emphasis on the importance of the customer, process orientation, continuous improvement, teamwork, management by fact, mutual respect and dignity whilst valuing individual employees and their contribution. In this respect, Evans and Linsday (2001) state that leaders are the role models for the whole organisation, and, therefore, must be passionate about quality and actively live the values. Furthermore, Evans and Linsday (2001) suggest the following leadership practices as importance in promoting quality and high levels of performance:

- The creation of a strategic vision and clear quality values that serve as basis for all business decisions at all level of the organisation
- Setting high expectations
- Demonstrating substantial personal commitment and involvement in quality
- Integrating quality values into daily leadership and management
- Sustaining an environment for quality

The critical role of top management in providing leadership has also been explained by reference to several diverse organisations. According to Whiford and Bird (1996) the managing director of Day International-Stockton managed the steering committee to initiate the TQM programme, which was based on a strategic five-year plan embodying company goals and policies.

The Group Managing Director of P&P in the UK has personally accepted the quality concept. The company committed itself to a regular communication programme and sought to involve its staff at all levels in the change process. Top-level management of P&P invited the staff to joint the voyage policies.

According to Ramirez and Loney (1993), the Corporate Management Committee of Xerox approved a total quality process in 1982, Policy objectives were developed by senior management, as was the statement of the desired future state of the company. In 1983, senior management appointed the first corporate vice president of quality. Senior managers formed a quality implementation team in conjunction with a supporting quality task force and consulted with quality experts to develop strategy. The core ideas of the senior management vision are as follows:

- quality is not enough but requires but requires addition of company inherent qualities: “entrepreneurism, innovation, autonomy and diversity” (Ramirez and Loney, 1993)
- A new productivity is defined as creating value and assisting customer productivity.
- Bureaucracy needs breaking up with empowerment and stripping out management layers.
- Exploiting diversity: the whole is greater than the sum of the parts.
- Learning to do thing differently by creating opportunity through failure and questioning success for improvements.
- Emphasising the group social mind: empowered and empowering beyond any individual.

#### 4.9.2.2. Employee involvement

In the context of TQM, it is widely acknowledged that participation in an improvement structure represents a major vehicle for employees to contribution to continuous improvement (Vermeulen and Crous, 2000; Lawler, 1994, Soin, 1992).

Employee involvement practices have been one of the techniques extensively used for improvement purposes by pioneering organisations. Among those initiatives, the redesign of work combined with job enrichment are two that are used widely to increase quality by creating jobs that entail autonomy and feedback (Hackman & Oldham, 1980).

Restructuring work around teams has been another alternative organisational change tool to contribute performance improvement through enhancing satisfaction at the work place (Morley & Heraty, 1995; Rodwell *et al*, 1998). These approaches mainly focus upon changing responsibilities and relationships among employees and are founded on a number of assumptions. The assumption behind teamwork is to upgrade autonomy that is realized in terms of identifying the best way of practicing a job to achieve the highest performance through a continuous search by employees for alternative ways of working. Increased autonomy is expected to foster self-fulfilment and make jobs significant (Ross, 1999).

However, employee involvement should begin with a personal commitment to quality. If employees accept and commit to a quality philosophy, they are more apt to learn quality tools and techniques and use them in their daily work (Evans and Lindsay, 2001). A number of key practices are employed by quality leaders to foster employee involvement. These include the following:

- All employees are involved at all levels and in all functions
- The effective use of suggestion systems to promote involvement and motivate employees.
- The support of teamwork throughout the organisation
- Monitoring the extent and effectiveness of employee involvement. (Evans and Lindsay, 2001)

By the same token, the Baldrige Quality Award and President's Quality Award Programme provided the following the key considerations of employee involvement:

- Involve employees in making decision, pursuing ideas, and taking risks.
- Provide climate of workmanship pride independence.
- Improve employee morale.
- Visit and discuss with employees.
- Encourage diversity in the workplace.
- Provide educational opportunities.

The findings of the study conducted by Longenecker et al. (1994) demonstrate that employee involvement and participation was the key to quality improvement. In a study of employee participation, Jacqueline and Shapiro (1999) concluded that supervisory participation is positively related to employee participation and the extent of employee participation is positively related to the assessment of the benefits of TQM. Zhang et al., (2000) in their study identified that employee participation is very important in the successful implementation of TQM. These findings are supported by Westund et al. (2001).

However, for most companies, employee involvement means a fundamental change in the organisation's culture (George and Weimerskirch, 1998). Lyondell Petrochemical Company initiated employee involvement for its 1,500 employees at four manufacturing sites in Texas. Lyondell began with empowerment. In Lyondell's terms, this means management willingness to delegate responsibility, training management and employees to make sharing of responsibility work, communication and feedback, and rewards and recognition. To create employee involvement, company expectations for management behaviours are taught to them over a two-day seminar. These behaviours are 1) low-cost production; 2) quality; 3) entrepreneurship; 4) action orientation; 5) recognition that people are the difference; 6) responsibility and accountability in all jobs; 7) teamwork; 8) communication; 9) safety of people; and 10) social responsibility and ethics. Managers are introduced to encourage employees to use 'sound, creative thought and action that can lead to innovative' (George and Weimerskirch, 1998). Managers are encouraged to 'assure that people understand their responsibility to make the greatest, most positive difference they can'. People involvement means deliberate organisational overlapping of behaviours and actions and the forming of an organisation-wide cultural web building the strength of component integration.

### 4.9.2.3 Empowerment

In the 1990's empowerment became extensively discussed as the new business issue (Bowen and Lawler, 1992, Minett and Ellis, 1997, Appelbaum and Honeggar, 1998). The traditional view of leadership management is consistent with control and employees waiting to be directed (Long, 1996). According to Hoffman and Bateson (1997) firms can be successful with-out empowering employees and the amount of empowerment varies by degree. Both the type and degree of empowerment are important, because they are key parameters in defining appropriate actions (Rafiq and Ahmad, 1998). Bowen and Lawler (1992) describe different levels of empowerment and compare this with the industrialised service delivery. Hoffman and Bateson (1997) suggest empowerment can be suggestion involvement when employees are allowed to give recommendations for improvement. It can be further used within quality circles where small groups of employees brainstorm to generate additional improvement suggestions.

Empowerment requires substantial training. In their study Prybutok and Kappelman (1995), found that training alone provided little benefit and explained almost nothing about success, but training combined with empowerment provided a great deal more benefit and explanatory power. They conclude that providing employees with an empowering experience in conjunction with their training significantly improved the outcome of that training. Edosomwan (1992) suggests that following critical elements of empowerment leading to an improved organisational performance:

- Involve employees in developing the organisation's strategies
- Provide the skills required to solve problems and make decisions
- Define empowerment based on the ,mission of the organisation

Ross (1999) indicates that the greater employee autonomy and discretion implied by team working are invariably accompanied by an intensification of work and increased self-monitoring. According to Simmons et al (1996), true empowerment provides a critical clue that contributes to organisational growth, to achieve the organisation's goal and to

create a new managerial behaviour. However, Gilbert (1993) argues that the essence of TQM operation in an organisation is focusing on customer and process improvement through sound empowerment, since empowerment establishes the initiative to activate people toward accepting and fulfilling the organisation's goal.

Recent studies identified employee empowerment as critical factors of TQM implementation (Martinez-Lorente et al., 2001, Claver et al., 2004, Dale, 2005). Eastman chemical company implemented successful employee empowerment through, isolating employee factors or characteristics that make empowerment difficult, unlikely or impossible. The characteristics are that employees: 'don't care; don't have appropriate skills' (The X factor Executive Report, 1999). Eastman addressed the issues by outlining processes for given employees the skills and authority needed to assume to increase responsibility. Employees were surveyed to this end. They discussed disturbing aspects of the employee appraisal system that were a major obstacle to their dedicated and sincere involvement. However, it's good for the organisation to empower employees with freedom and responsibility. Frontline people are increasingly empowered and the organisation's structure has been increasingly flattened. Information flows to an increasingly larger group of employees who progressively assume responsibility for fundamental decisions. Empowerment creates a demand for communication change. Organisation vision and policy communication flow through the empowered groups (George and Weimerkirch, 2000).

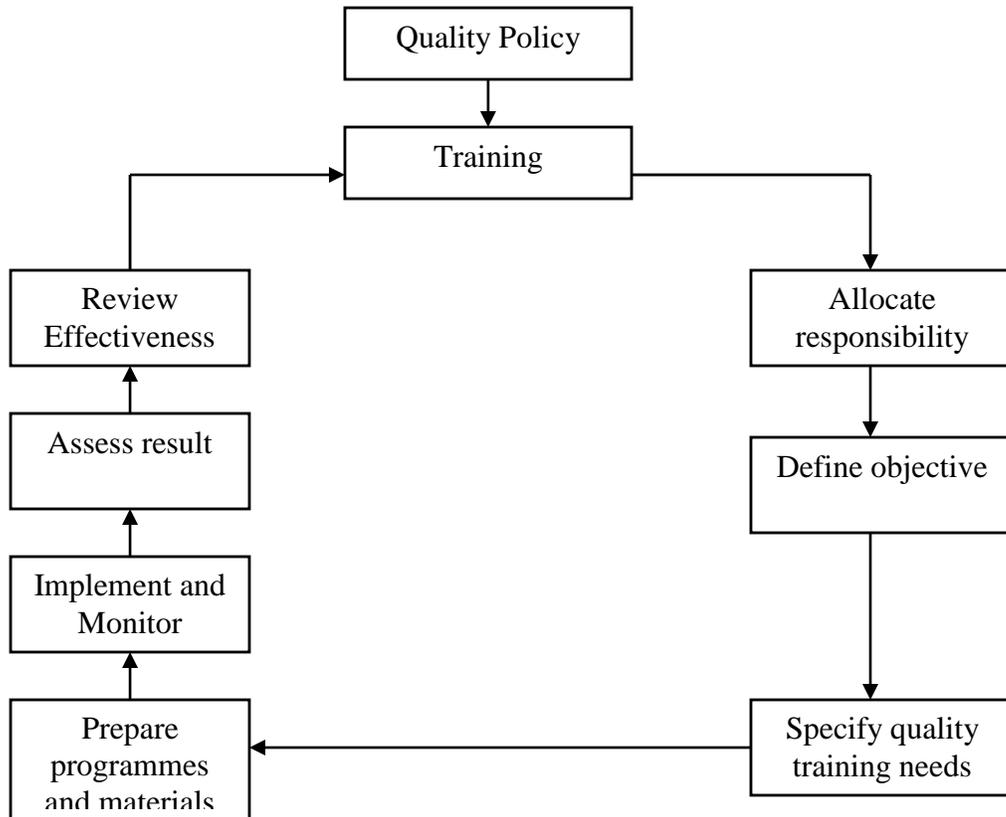
#### 4.9.2.4 Training and Education

An extremely important way to institute quality into an organisation, is to train employees to do their jobs better. First Interstate Bancorp has demonstrated its confidence in employee training by initiating credit training programmes for those employees involved in the analysis, recommendation, approval or review of commercial credits (Spagnola and Spagnola, 1993, P.11). According to Thiagragan and Zairi (1997) training and education based on total quality management must be planned and provided for successful change is to be realised. According to Oakland (2000), training is the

single most important factor in improving quality once the necessary commitment has been assured, and thus training strategy should be addressed early, along with other strategies within the quality policy.

The training structure must be top-down, starting with the top team and cascading down the organisation. The golden rule for successful implementation is to ensure managers train their own people. This is necessary to show management commitment and to ensure managers actually understand the TQM principles and methods (Spencer, 1992, P.94). Through training and education, a common language may be achieved throughout the organisation. The importance of effective education and training is emphasized by all the authors who were surveyed. Bird (1993, P.66) sees training as important in order to give employees the necessary knowledge to bring about quality improvement across the company. Batten (1992, P.48) describes the importance of education and training by the following words: "Train, Train, and Train!". McDonnell (1994, P.43), Schonberger (1992, P.22) and Riley (1993, P.32) all regard training as fundamental in transforming the workforce so that it can function in the demanding TQM environment.

For quality training to be effective, however, it must be planned in a systematic and objective manner. Quality training must be continuous to meet not only changes in technology, but also changes involving the environment in which an organisation operates, its structure and most important of all, the people who work there. Oakland (1993, P.264) developed the "Quality training cycle" and this cycle set out in figure 4.9.



**Figure 4.9 The quality training cycle (Vermeulen and Crous, 2000)**

Clinton et al. (1994, P.13) believe that employees require three basic areas of training and development in the TQM process, namely: instruction in the philosophy and principles of TQM; specific skills training such as the use of different TQM tools; and interpersonal skills training to improve team problem-solving abilities. In developing TQM training programmes, efforts should be aimed at an integrated approach to the instruction process (Vermeulen and Crous, 2000). The authors are of the opinion that without proper TQM training, the whole process is doomed to failure. TQM educated employees and managers will be more positive and committed to the process as they know what is expected from them.

#### 4.9.2.5 Middle management role

Management must recognise that middle managers can make an important contribution to organisational success and in the quality process (Burgelman, 1991, 1994; Bartlett and Ghoshal, 1993; Livian and Burgoyne, 1997; Floyd and Wooldridge, 1997, 2000; King et al., 2001; Balogun and Johnson, 2003; Kanter, 2004). Middle managers can influence the design of organisational strategy by synthesising information for top management attention and by championing new ideas. They also play an important role in implementing strategy, as it is their role to translate strategic goals into concrete action, thus aligning organisational competencies (Kanter, 2004). Middle management can furthermore play an integrative role by arbitrating between employee needs and corporate objectives.

According to Pugh et al. (1968); quoted in Floyd and Wooldridge, (1997), middle management can be defined as organisational members who link the activities of vertically related groups and who are responsible for sub functional work flows, but not the work flow of the organisation as a whole. Middle managers have long been seen as the linking pins (Likert, 1961) between top management and the organisation's operational core. They connect the overall strategic direction with the day-to-day reality at the operations level. Based on their unique position in the organisation, they have knowledge of customer requirements, operating capabilities and top managerial intent. Rather than merely passing down executive-level orders, middle managers interpret these, negotiate their implementation and mediate between different organisational interests (Bartlett and Ghoshal, 1993; Floyd and Wooldridge, 1997, 2000; Floyd and Lane, 2000; Balogun, 2003; Kanter, 2004).

However, middle management can be difficult to convert to TQM, because many managers may have been with the organisation for a number of years and are used to a certain style of management. According to Mann and Kehoe (1995), it may be difficult for middle management to give greater responsibilities to employees and change to a participant style of management, because they themselves may be controlled more by the

incoming TQM structure. To achieve the middle management's commitment and confidence in TQM, an education and training programme must address their needs and a support structure must be developed to assist them through the change period. Without the total commitment of middle management, team building and employee involvement will be affected. In this respect, Samuel in 1992 suggested the transformation of middle managers into change agents through a systematic process that dissolves traditional management boundaries and replaces them with an empowered and team-oriented state of accountability for organised performance. On the other hand, effective implementation of TQM within organisations depends on the integration of all components, notably the productive effort of organisation member (Evans, and Lindsay, 2001).

#### 4.9.2.6 Reward and Recognition

Reward and recognition are consistently acknowledged by organisations and managers as an important element in motivating individual employees (Cocioppe, 1999). "Employee of the month" schemes, profit sharing, monetary payment for higher productivity or commission on sales revenue are widely used. There appears to little understanding however, as to why particular incentives are used in different situations or at specific times. However, London and Higgot (1997) argue that when establishing a TQM process within a company, a transition in corporate culture towards one of continuous improvement is a fundamental requirement. In this sense, an effective reward and recognition process provides a clear and visible statement to all employees of the organisational values and the commitment to employee involvement.

However, reward and recognition for individual employees remains one of the controversial areas of quality management. Notable authors such as Deming (1986) believed that fair ratings in such systems were impossible due to supervisor biases, worker competition and organisational politics. More recently, Scholtes (1995) has listed five reasons to explain why reward, recognition and incentive systems do not work: (1) no data to show long term benefits; (2) they set up internal competition; (3) reward

systems undermine teamwork and co-operation; (4) they often reward those who are lucky and pass by those who are unlucky; and (5) they create cynics and losers.

Other discussions of reward and recognition systems recognize their importance in TQM processes and attribute any failure of the system to the methods of implementation (Knouse, 1995). Lomdon and Higgot (1997) described process in their research that has been tailored to the individual needs of the company; the process consists of the following elements:

- (1) Categories for awards;
- (2) Nominations;
- (3) Review of nominations;
- (4) Recognition of successful nominations;
- (5) Review of successful nominations;
- (6) Final selection;
- (7) Awards; and
- (8) Annual quality award

On other hand, according to Gerorge and Weimerskirch (1998) reward and recognition is a key factor in TQM implementation especially when it is aligned with the organisational quality improvement effort. George and Weimerskirch (1998) state that most quality leaders begin with formal recognition. Many companies such as Intel, IBM and Honeywell, utilise corporate quality awards. These companies express two goals for their organisation, these goals are:

- Recognition of an employee's contribution and communication of quality
- Customer satisfaction commitment at highest level.

#### 4.9.2.7 Team work

Team activity represents the principal source of process improvement. The significance of teams rests on the fact that they provide opportunities to individuals to solve problems that they may not be able to solve on their own (Evans, and Lindsay, 2001). Zhang et al. (2000) suggested the use of measures, such as cross-functional teams, within functional teams, quality control circles, voluntary teams, and suggestion activities, for encouraging employee participation. Teams should be the basic unit of performance for most organisations because they represent a combination of multiple skills, experience and judgments. Shaprio (1995) said that teamwork could be viewed and interpreted as the collaborative activity of individuals and co-operative interactions within the group. In this respect, Heath (1989) points out that commitment, support, trust and satisfaction are key elements for establishing a sound environment for teambuilding. However Tam in 1997 identified five reasons why teams are successful, namely:

- Flexibility, as teams are easier to assemble, deploy, refocus, and disband
- Commitment: teams with commitment to clear objectives produce excellent result
- Synergistic response to challenge: complementary skills and experiences enable teams to respond synergistically to challenges changing events and demands.
- Enhance work: teams help members to overcome barriers and establish confidence.
- Focus: teams help members to develop a shared sense of direction

In research on quality improvement through team-goal setting, feedback, and problem solving, Longenecker et al. (1994) conclude that when a manager of a production cell sets up quality problem-solving teams to respond to defect rate problems, he received not only quicker response times but better decision making and more rapid implementation of solutions. According to Evans and Lindsay (2001), the central role of teams and the needs for such team skills as co-operation, communications, cross-training and group decision-making, represents a fundamental shift in how the work of organisations is performed in the western world. On other hand, the concept of teamwork in quality has been developed

and refined through quality circles in Japan and evolved into powerful self-managed teams today, Quality circles, which are defined as small groups of employees from the same work area, were instituted in Japan in the early 1960 and then brought to the USA in the early 1970 (Evans and Lindsay, 2001). However, in Japan, the rapid push for quality became a national priority and the result were domestic (Ibid), on other hand, the western approach to quality circles moved toward improvement of employee satisfaction and communications (Luzon, 1988). However, Ross (1999) argues that a useful way of conceptualising the role of team working in quality strategies is to consider how it relates to “employee empowerment”.

#### 4.9.2.8 Strategic Planning

According to Evans, and Lindsay (2001) strategic planning is a systematic approach to setting quality goals, it's clear, to have successful implementation of TQM in any organisation, companies need to align of every member's effort with the aim of the organisation (Olian et al, 1991). Quality gurus and researchers strongly emphasise the importance of the strategic planning process based on the concept of total quality (Deming, 1986; Juran, 1974; Crosby, 1979; Oakland, 1993; Zairi, 1994; Haksever, 1996; Sinclair and Zairi. 2001). However, Juran (1974) considers policy development as an integral part of management's commitment to quality. On other hand, Crosby sees quality policy as a standard for practice that sets priorities by influencing the entire organisation on what to do and what not to do.

According to Evans and Lindsay (2001), complete integration of TQM into strategic planning is a result of a natural evolution. Good practice indicates that senior management and employees actively participate in the planning process. However, to have a strong relationship it is necessary to establish the credibility of a total quality focus and integrate quality into the business planning process (Ibid). On other hand, the total quality concept must be viewed as an integral strategy for daily management of the business (Ross, 1999). The pervasive role that quality plays in strategic planning can best be understood by considering the components of strategy which include; 1) mission; 2)

product/market scope; 3) competitive edge, 4) supporting policies, 5) objective and 6) organisational culture (Ibid). Schonberger (1992) argues that a sound strategy should be readily absorbable into the culture of the firm for day to day as well as for long range actions, decision, and plans. Strategic decisions have far-reaching effects on sales, capacity, finances, the competition, the environment, risk rate of change and so forth. Grocock (1986) pointed out that the easiest part of strategy development is the establishment of policy. Similarly, Juan (1991) indicates that the role of policy is to pave the way for unity of direction in planning, control and improvement of processes. In a study of six companies, Dale and Duncalf (1988) conclude that those companies without a formulated quality policy are unlikely to have effective quality-related decision-making processes.

#### 4.9.2.9 System and process management

##### 4.9.2.9.1 Accredited quality management systems

TQ culture, registration with a quality management system such as BS 5750/ISO 9000 is seen by many organisations as a starting point and an important element of the implementation process (Hirschhorn and Gilmore, 1992; Oakland and Porter, 1994; Porter and Parker, 1993). At Carnaud Metalbox plc, the BS 5750/ISO 9000 registration process provided the foundation on which a quality culture was built and helped the company to move on in developing the total quality process (Oakland and Porter, 1994). At Tioxide Group Ltd, the registration programme pushed quality to a much higher profile in the firm as everyone was actively involved in the process. The firm also saw itself in a better position to meet the specific needs of customers and improve its strategic relationships (Oakland and Porter, 1994). In discussing the implementation of the quality management process at Esso Research Centre, UK, Price and Gaskill (1990) emphasize that the use of the discipline of a recognized industry accreditation for a quality management system, such as the ISO 9000, helps in the integration of the quality process into the site culture. The systematic approach, as stipulated under the various elements such as calibration and maintenance of laboratory equipment, staff training, and sample

management, assists in minimizing errors and increases the incidents of “right first time”. Companies such as Nissan Motor UK, Federal Express and Club Med view operating standards as an important requirement in the quality stakes. However, they do not see the need to have a recognized industry accreditation (Binney, 1992). On other hand, many organisations consider ISO 9000 certification as the first step in the implementation of TQM (Oakland et al., 1994). A documented quality system as part of a TQM strategy can contribute to TQM by managing the organisation’s process in consistent manner (Zhang et al., 2000).

#### 4.9.2.9.2 Organising for Quality

The success of the quality improvement process depends on effective and systematic implementation (Crosby, 1989). Given the corporate-wide nature of TQM, a suitable infrastructure to support quality initiatives is required (Johnston and Daniel, 1991). Oakland and Porter (1994) in fact, highlighted that one of the responsibilities of senior management at the outset of introducing TQM is the need to set up a defined quality organisation structure in order to create a framework which will enable quality improvement to develop and flourish (Bendell et al., 1993; Davies and Wilson, 1990; Easton, 1993). In fact, they see the structure as a key element in ensuring the success of TQM.

Some authors such as Oakland and Porter (1994) propose a three-tier quality structure, made up of a quality council, process quality committees (or site steering committees) and quality improvement teams to devise and implement TQM within an organisation. The quality council, comprising a top management team and headed by the CEO, reviews the strategic direction on TQM, decides resources, monitors, facilitates, and handles impediments to progress (Bendell et al., 1993) . Glover (1993) views a quality council as usually beneficial in planning and designing the TQM system. He goes on to say that it is important that the council is high-powered if this is to be realized. The process quality committees support the council by overseeing and managing quality at process or site levels, depending on the size of the organisation. Oakland and Porter (1994) recommend

that every senior manager should be a member of at least one committee, and believe that this provides the top-down support for full employee participation, through either a quality improvement team or quality circle programme. The committees control the quality improvement teams and assist by selecting projects, appointing team members and monitoring progress. The team members, themselves cross-functional, are brought together to tackle and solve specific problems on a project basis. A case example of a three-tier structure is a quality structure introduced at a major British construction machinery manufacturer (Goulden and Rawlins, 1995). The structure was made up of a plant quality council, steering groups and cross-functional/multilevel project teams. Overall strategy and management of the quality programme is provided by the council. The steering groups sponsor and support individual teams, ensuring the required resources are made available.

Members of the teams come from areas closely associated with the project. The quality structure at Shorts Brothers is another example (Oakland and Porter, 1994). To direct a quality management implementation process, a total quality organisational structure was formed at the outset of the implementation process. This consisted of a quality council chaired by the CEO, two divisional councils chaired by their respective vice-presidents, and 18 functional quality teams chaired by senior managers. A total quality secretariat was also established to coordinate the quality initiatives and to take a leading role in assisting the quality council to develop a total quality strategy. The quality structure at STC Cables Products UK is aimed at total employee involvement in the quality improvement process (Davies and Wilson, 1990). The company designed a five-element quality structure to harness their full potential at every level of the Organisation (Thiagarajan and Zairi, 1997):

- Quality improvement team: 1) comprising general manager, senior managers and a facilitator, 2) ensures visibility of management commitment, 3) determines quality policy, 4) establishes direction, 5) provides support
- Quality improvement groups: 1) operate at all levels on a departmental basis, 2) supervisors as leader, 3) address quality issues within work area

- Corrective action teams: 1) brought together to address specific problems allocated, 2) Disbanded when permanent solution found, 3) leader is appointed, 4) leader selects members.
- Quality improvement process manager: 1) senior manager, 2) facilitates day-to-day operations of quality improvement groups and corrective action teams, 3) coordinates quality activities
- Individuals: 1) the employee is expected to strive for excellence and be totally involved in the quality process

It is evident from the literature that support structures for quality management vary widely (Black, 1993). Smith (1994) suggests that the differences reflect the cultures of the organisations. The structures are also seen to be live, evolving as the TQM matures. This may suggest that there is more concern with promoting ownership of the quality process than there is with the structure required. Promoting ownership of the quality process through structures becomes even more beneficial within Organisations with geographically dispersed operating units. At Southern Pacific Lines, several regional steering committees reporting directly to the central quality council were set up (Carman, 1993). However, organising for quality basically links with organisational culture. TQM principles themselves are a critical influence on organisational culture, ‘most organisations are in a position to improve cultural dimensions using various methods of quality management’ (Kanji and Youi, 1997).

#### 4.9.2.9.3 Process management

Many organisations maintain and operate along vertical functional structures, stifling the people within the organisation and thus preventing them from understanding how their work affects the overall process of providing customer satisfaction. The functional approach therefore allows barriers to customer satisfaction to evolve (Oakland and Beardmore, 1995). It allows critical control points between departments to be vulnerable to organisational “noise” (Edson and Shannahan 1991) such as “turf protection” and poor communication.

However, if the aim of implementing TQM in an organisation is to achieve customer satisfaction, then a first step is managing the internal customer-supplier relationship to support the management of processes (Thiagarajan and Zairi, 1997). Within each organisation there exists an intricate structure of both internal customer (one individual/process/department dependent on another) and internal supplier (one individual/process/department supplying another). Any weak link or break at any point in the internal customer-supplier chain may find its way to the interface between the organisation and the external customer (Oakland, 1993). Deming (1986) and Kanji (1995) also talk about understanding the notion of internal customer-supplier as being absolutely critical to a quality transformation. In this sense, the concept of an internal and external customer supplier relationship forms the core of total quality (Kanji and Asher, 1993; Oakland, 1993). The best organisations ensure that everyone within the organisation understands that they are dependent on one another, knows where their work goes, and continuously ensures that the necessary quality at each interface meets overall customer expectations (Bendell et al., 1993; Crosby, 1989). At Shorts Brothers, everyone understood the concept of the internal customer-supplier and that satisfying the internal customer must be realized in order for the company to succeed in its quality quest (Oakland and Porter, 1994). In his study, Sinclair (1994) found that the identifying and mapping of processes is one of the activities pursued by TQM organisations to support the management of processes (Hardaker and Ward, 1987; McAdam, 1996).

#### 4.9.2.9.4 Benchmarking

Benchmarking is another integral part of a total quality process (Bank, 1992; Beadle and Searstone, 1995; Bendell et al., 1993; Kleiner, 1994; Mitchell, 1995). Rank Xerox, which developed benchmarking as part of its quality process, provides the most practical definition: A continuous, systematic, process of evaluating companies recognised as industry leaders, to determine business and work processes that represent best practices, establish rational performance goals (Zairi, 1994).

The primary objective of benchmarking is performance improvement (Thiagarajan and Zairi, 1997). Identifying opportunities for performance improvement by comparing one organisation's performance with that of another is a reflex of TQM (Bank, 1992). Zairi (1994) identifies the link between TQM and benchmarking: 'TQM is the wheel of improvement, doing an internal, value-adding activity for the end customer. Benchmarking is the external activity for identifying opportunities and ensuring that the wheel of improvement is turning in the right direction and is making the necessary effort towards the end destination, i.e. achieving high standards of competitiveness'. Many of the best organisations are using benchmarking as a tool for obtaining the information to be used in the continuous improvement process, and to gain competitive edge (Booth, 1995; McNair and Leibfried, 1992). They are attracted to it because it stimulates and challenges the improvement process (Smith, 1994). Through benchmarking, an organisation discovers its strengths and weakness and incorporates the best practice into its own operation.

According to Evans and Lindsay (2001) three major types of benchmarking could be identified, namely:

- Performance benchmarking which involves pricing, technical quality, features and other performance characteristics of products and services.
- Process benchmarking centres on work processes such as billing, order entry, or employee training.
- Strategic benchmarking, which examines how companies compete and seeks the winning strategies that have led to competitive advantage and market success.

#### 4.9.2.9.5 Self-Assessment

Self-assessment is an effective technique to measure the culture of quality within an organisation (Zairi, 1994). In this sense, management can use self-assessment as the means to assess whether its implementation efforts are deployed in the right way. The ability to assess an organisation's progress against an accepted set of criteria would be most valuable (Oakland, 1993; Porter and Tanner, 1995). The Malcolm Baldrige National

Quality Award (MBNQA) and the European Quality Award (EQA) assessment models are available to organisations for self-assessment (Conti, 1991). For example, it has been suggested that thousands of TQM organisations use the MBNQA criteria annually (Sunday and Liberty, 1992).

However, executive management involvement and leadership in self-assessment is regarded as being essential because of their instrumental and encompassing role in organisation improvement. The choice of model for implementation depends on top management knowledge and preference (Fountain, 1998). In this sense, these provide a more widely accepted technique to measure progress towards TQM than those suggested by authors such as Saraph et al. (1989), Black (1993), Cupello (1994). Many organisations adapt these well known criteria to suit their needs and objectives. The award type self-assessment can be the most objective.

#### 4.9.2.9.6 Cost of Quality

Quality costing is one quality tool that has been used to help justify the adoption of quality improvement efforts to top management (Israeli and Fisher, 1991; Plunkett and Dale, 1990). Dale and Plunkett (1991) consider quality costing as a useful first step along the TQM journey. Crosby (1979) calls the measurement of quality costs one of the absolutes of quality management Thomas Interior Systems (USA), which modelled its 14-step quality process on that of Milliken & Co, winner of the 1989 Baldrige Award, considers the cost of quality as an important stage in its quality process (Johnson, 1993). To ensure its people are comfortable with the improvement process, the company introduced the cost of quality in the first year to everyone. It is believed that putting this exercise at the beginning helped employees to believe in the quality process. Hilti (Great Britain) Ltd also conducted a cost of quality analysis as an integral part of the TQM process to show the staff in the early stages the tangible benefits of introducing total quality (Findlay et al. 1990). At Shorts Brothers, management were quick to realize at the outset of the TQM implementation that the total quality process would only survive if it could provide tangible benefits to the company. It involved the workforce in the cost of

quality projects relevant to the business objectives (Oakland and Porter, 1994). The success in savings convinced the staff of the benefits of total quality.

In order to get the efforts in tracking of the cost of quality started, several organisations confine tracking to costs where measurable improvements can be obtained in the short to medium term. LeaRonald (UK) concentrated initially on costs such as scrap and rework quality assurance, compensation claims, staff turnover, and poor inventory management. However, National Westminster Bank plc discovered early in its quality journey that straight rework offered the largest opportunity for improving quality cost (Goodstadt, 1990). Thomas Interior Systems (USA) introduced the quality cost concept without getting too specific or to try to account for every penny of cost by looking at errors in specifications, lack of training, cost of not doing things right the first time, missed opportunities and loss of repeat business (Johnson, 1993).

#### 4.9.2.9.7 Quality Control Techniques

Juran (1974) states that quality control techniques are important tools, not only for low-defect production but also for quality improvement. Shewhart defines quality control as the use of statistical procedures to provide guides to produce good parts and to disclose the cause of variations (Modares and Aussari, 1989). Other quality gurus such as Deming and Taguchi strongly support a comprehensive quality control system to aid the management of quality. Deming says the key to achieving high quality conformance and to overcoming process-related problems is the use of statistical quality control techniques (Modares and Aussari, 1989).

The techniques deal with the collection, analysis and interpretation of data related to the causes of variations in quality characteristics. According to Juran, there are over 50 system quality control techniques (Quiros, 1994). However, the fundamental ones, originally assembled by Ishikawa (1985) as the seven QC tools, are process flow charting, check sheets or tally charts, histograms, Pareto analysis, cause and effect diagrams, scatter diagrams and control charts. On other hand, system quality control for

defect prevention is one of the cornerstones of the quality strategy at Electrolux (Cullen and Hollingum, 1987). The use of system quality control techniques was also seen as one of the key elements in the development of Tioxide Group Ltd's total quality strategy, while at CarnaudMetalbox plc, the system quality control initiative was seen as an important vehicle for wider participation in teamwork and gave the total quality process a new boost (Oakland and Porter, 1994).

#### 4.9.2.9.8 Customer focus/satisfaction

According to Evans and Lindsay (2001) customer satisfaction is how an organisation determines customer requirements and expectations. In the EFQM (1999) self-assessment guidelines, customer satisfaction is referred to as what organisation will achieve, in relation to the satisfaction of its customer. According to Oakland, and Porter (1994), many quality award-winning companies, award applications, and other organisations reporting successful business results share certain common approaches and basic philosophies regarding to customer satisfaction. These companies have an intense customer-centred focus in which employees at all levels are involved, informed about, and committed to.

However, to satisfy the customer, a company must identify customer needs in order to design the appropriate product or service (Spring et al., 1998). According to Chan (2001), one TQM techniques is quality function development, which is a customer-oriented approach for translating customer voices into various design features of products and services. Govers (2001) emphasise that customer requirements and their relationship with design characteristics are the driving forces of QFD methodology. On the other hand, Zairi and Youssef (1996) identified three objectives of QFD, these objectives are:

- To identify who is the customer
- What the customer wants
- How these wants can be fulfilled

However, according to Evans and Lindsay (2001) companies worked to continually improve its total quality management efforts to meet the intentions set out in its strategic vision through focusing on exceeding customer expectations while achieving rapid globalisation, superior return on assets, and aggressive sales revenue growth. On other hand, a strategic focus on customer satisfaction should lead to customer loyalty. Loyalty is the intention to continue purchasing joined with a positive recommendation of the company, its products and services (Ibid).

#### 4.10 Discussion of TQM Literature

Quality achievement has become an important measure of organisational success in both manufacturing and services. Throughout previous chapters, an attempt was made to survey the literature on important factors in the process of TQM implementation. Through the extensive literature review, many critical success elements of TQM implementation are identified based on reviews of various models, quality awards, and conceptual frameworks of academics, practitioners along with empirical studies.

##### 4.10.1 Criticisms of Total Quality Management

According Evan and Lindsay (2001) there are many success stories of TQM implementation and its benefits, the real impact of TQM cannot be disregarded. A number of failures have also been reported, for example Eskildson in 1995, and Harari in 1993. According to Eskilson (1995) argues that TQM does not provide either a cure-all nor is it single key to organisational success. Eskilson (1995) provides several examples one of which was the bankruptcy of the Wallace Co, after receiving an award from MBNQ. The reason for the bankruptcy of the Wallace Co. was spending too much on quality.

However, the main disadvantages of TQM, based on Eskildson's suggestion are:

- The number of overlapping programmes

- Lack of clear accountability
- Lack of credible measurement
- Inadequate reporting
- Difficulty in keeping up with changing customer priorities
- Diversification of business
- Lack of strategic focus

On other hand, according to Goodman et al. (1994), problems concerns the different methods of data collection and classification, TQM requires surveys, customer complaints, field reports and process data, and these methods cannot be combined because of data conflict.

Another criticism on TQM is that it, mainly focuses on internal matters for example, performance measures, training, employee participation and leadership, whilst the real growth element comes from external matters like marketing. Therefore quality programs should incorporate the marketing side of quality, in order to make customers' needs and perceptions meaningful internally. In addition, the key is to find ways to link external measures of customers' requirements, fulfilment and purchase behaviour to internal quality measures (Kordupleski et al., 1993)

On other hand, Harari (1993) argues strongly about the disadvantages of TQM principles. Harari (1993) pointed to ten reasons why TQM brings potential problems in real world applications:

- Focuses on internal processes rather than on external result
- Focuses on minimum standard
- Develops its own ponderous bureaucracy
- In addition, total quality philosophy involves a comprehensive transformation
- Does not require radical organisation reform
- Does not demand changes in management compensation
- Does not demand entirely new relationship with outside partners

- Drains entrepreneurship and innovation from the organisational culture
- Has no place for emotion and soul, but is a mechanical approach
- Tries a one-size-fits all solution

In addition, total quality philosophy requires a comprehensive transformation of organisational beliefs, values and behaviours (Olian and Rynes, 1992). For example, senior management's lack of understanding the quality principles could result in a misestimating of the degree of change involved in the adoption of a total quality strategy (Ibid).

TQM implementation requires radical change to traditional management practices, for example, traditional management paradigm stresses authoritarian control (Evans and Lindsay, 2001). Therefore, though managers may support the principle of employee participation and input, they are uneasy about giving up their authority (McConnell, 1995). The development of an effective work team may be problematic in organisational cultures where human resource systems emphasise individual performance reviews and compensation (Waldman, 1993).

However, Jung et al. (2008) discussed the benefits of implementation and operation of TQM to the firms. They have mentioned that the implementation of TQM does not warrant a positive result. The result of their study shows that effect organisational culture is largely driven by national culture on implementation and operation of TQM. In their research, they took an initial step to find the relationship between organizational culture stemming from national culture and TQM elements. They found an interesting result which shows “power distance” “long-term orientation” and “individualism” have impacted the TQM implementation effort.

Despite the criticisms, not many academics nor practitioners dispute the fact that the quality movement has been the most influential of all management innovations in the last two decades (Krishman et al., 1993). Evans and Lindsay (2001) assert that many

companies achieved astonishing success through total quality emphasis and because the world is becoming more quality conscious, companies that resist TQM may not be in business for long. Moreover, TQM has been credited with some extraordinary success stories. These successes involve business turnarounds for industry giants such as Ford, Motorola and XEROX (Krishman et al., 1993).

Shine et al. (1998) states that the proper implementation of TQM could be a powerful vehicle where companies are able to achieve excellence in business performance. However, they also claim that companies that have not achieved TQM potential benefits have begun abandoning its practices. These companies should not blame the TQM framework, because the key reason for its failure is the lack of understanding of what TQM means for each unique organisation and how to implement it effectively. Thus is what has created scepticism about the effectiveness of TQM, not the basic concepts and philosophy of TQM itself.

#### 4.10.2 TQM and Challenges to Management theory

TQM principles challenge management theory and practice. Grant et al. (1994) indicate that TQM is a challenge to conventional management techniques and the theories that underlie them. TQM and management follow different paths of development and diffusion. While TQM has its origins in statistical theory. Management theory has its roots in the social sciences, including microeconomics, psychology, and sociology. TQM has been developed primarily within the industry and the government, with the works of quality gurus whose backgrounds were mainly in industrial engineering and physics. This stands in contrast with management theory that has its origin in business schools and consulting firms. Table 4.3 represents some characteristics of TQM and management theory in terms of their origins and development (Grant et al., 1994).

Criteria	TQM	Other management method
Intellectual Origins	Statistical theory: sampling and variance analysis	The social sciences: micro-economic, psychology , and sociology
Sources of innovation	Industrial engineers and physicist working in industry and government	Leading business schools and management consulting companies
National origins	International: developed in the US, transferred to Japan, subsequently diffused and extended within North America and Europe	United States, then transferred internationally
Dissemination process	Populist: smaller companies and middle managers have played a prominent role	Hierarchical: from leading industrial corporations to smaller, less prominent companies, and within companies from top mismanagement down

**Table 4.3 TQM and other management theory**

The major difference between TQM and management theory is related to underlying assumptions regarding the organisation. Most traditional management theories and techniques rely on the economic model of the firm, where the primary goal is to maximise shareholder's wealth (Grant et al., 1994). In contrast, TQM mainly focuses on serving customer's needs, which is in contrast with profit maximisation. In the economic model of the firm, the role of management is centred on coordination and supervision, whereas in TQM, managers process the role of coach and serve as an agent of change.

It should also be noted that the main difference between management theory and TQM is the intended audience. While TQM is aimed at managers, management theory is directed at researchers. Despite the differences between TQM and management theory, Dean and Bowen (1994) argued that TQM research is important since TQM has practitioner origins

and management research should address the practice. They explored the relationship between the principles of TQM and those of management theory, using Malcolm Baldrige National Award as a bridge between the two approaches. Three major areas for research and practice have been identified:

- Areas in which management theory and TQM are essentially identical: these include top-management leadership and human resource practises such as employee involvement, the use of teams, training needs analysis and evaluations, and career management.
- Areas in which management theory may supplement TQM: these include analysis of information, strategy formulation, employee selection, customer-supplier relationship, and employee involvement and empowerment.
- Areas in which TQM suggest new direction for management theory: these include leadership, the role of quality in competitive strategy, and strategy formulation process.

Dean and Bowen (1994) stated that some of the conflicts between TQM and management theory arise because of the universal orientation of quality management which is in contrast with the contingency approach of management theory. Another conflict between TQM and management theory is in the underlying and philosophical assumptions of TQM and management theory. TQM, from the viewpoint of its founders, emphasises factors such as cooperation and the value of work (Wicks, 2001), which may be radically in contrast with the rules of competition and profit generation (Deming, 1986). The challenge in TQM implementation is how to make a balance between the principles of TQM and those of key shareholders in the firm.

Grant et al., (1994) argued that quality management could bridge the gap between the “rationalistic school” (based on scientific management) and the “human relation school”

(based on organisation as a social system with an emphasis on psychological and social needs). However, they inducted that TQM and management principles are in conflict, where the former emphasise the “social model of the firm”, and the latter focus on the “economic model of the firm”. TQM is incompatible with an economic model of a firm, and companies will need to choose between these two.

#### 4.10.2 Organisational culture and TQM

Organisational culture plays an important role in coping with the competitive, continual change facing organisations. It can be seen as a strategic tool for organisation managers. However, it has been widely accepted that TQM implementation requires a culture change in the organisation (Kekale, 1995). Gore (1999) argues that TQM provides a framework for building an organisational culture that will equip an organisation to continuously learn and improve. Gore (1999) concluded that TQM increasingly focuses on all aspects of the organisation, include a holistic view of the employee, and as a result, provides an approach to building a culture consistent with success. Similarly, Zeitz et al. (1997) argues that the essence of TQM is culture change and that TQM practices are merely tools for cultural transformation.

Lorsch (1986) considered organisational culture as a potential invisible barrier to change, particularly when it clashes with the new posture that the company intends to take. Because of this, Deshpande and Parasuraman (1986) argue that organisations must take account of their corporate culture and attempt to harmonise it with their strategy in order to achieve the desired results. It should be appreciated that cultural change should incorporate the primary need to meet customer requirements, implement a management philosophy that acknowledges this emphasis, encourage employee involvement, and embrace the ethic of continuous improvement (Batten, 1994). With respect to organisation culture and TQM, Deming (1987) calls for a transformation of American management style; Feignbaum (1989) suggests a pervasive improvement through the organisation.

Ross (1999) maintains that the basic vehicle for embedding an organisational culture is a teaching process in which desired behaviours and activities are learned through experiences, symbols, and explicit behaviour. Newman (1988) argues that managers need to realise that transformational change is eventually important when implementing TQM. According to Batten (1994), an organisation's level of quality development is one characteristic that is often cited as a factor to consider when selecting which method of implementation to use. In his work, he used two factors, those factors were "quality activity" and "quality critical organisational characteristics" in order to identify the characteristics of an organisation that affect the implementation of TQM.

However, Gore (1999) identifies a number of initiatives generally described as part of a TQM effort that directly leads to creating a culture with very specific characteristics that support change and improvement. These initiatives as outlined in the Baldrige Criteria include the following: 1) participative management and openness, like supported by encouraging employee involvement, empowerment, the use of teams, education and training, 2) a rational approach like fact-based decision making, clear mission, objectives, statistical tools and statistical process control, 3) flexibility like customer focus and continues improvement. However, according to Anjard (1998), implementing a cultural change is similar to, but it's more difficult than, implementing any other changing in an organisation. It begins with a number of elements than include a clear plan, which includes the derailing of the changes that need to take place, a scheduling of these changes, a buyout package because of the difficulty in accepting or adjusting to the new behaviours.

The above review of organisational quality and TQM shows that the effective management of quality is related with organisational culture change. It also shows that the efforts of organisation to improve quality have been limited by a failure to change the soft aspect of quality which represents the implicit level of organisational culture. However, the specific nature of the theoretical relationship between organisational culture and TQM is often not made explicit.

There have been few empirical studies of the relationship between organisational culture and TQM implementation factors. Little evidence has been produced to support the assumption that organisational cultures are changed by TQM implementation factors. Al-Shammari, (2000) argues that where cultural change has taken place as the result of a TQM implementation, this has involved only the explicit level of organisational culture. A number of assumptions are made in about organisational culture in the TQM chapter. These are summarised below in relation to the three conceptual issues identified in the above overview of the organisational chapter (See organisational chapter review).

- **Those who see the culture as the only variable determining the organisational characteristics**

It is implied that organisation consist of a set of variables which are causally related to favourable indicators of quality. There is an associated assumption that organisational culture can be managed. Moreover, quality management is presented as a means through which cultural change can be achieved. This is challenged by some conceptualisations of culture. Although cultures do change, this does not necessarily imply that they can be changed by management.

However, the characteristics of an organisation can affect the implementation of TQM, this was emphasised by Van Der Akker (1989), who describes how TQM needed to be implemented differently within Aery Materials Group Europe because of the culture differences between the company's eight manufacturing plants and 15 sales offices. TQM is generally easier to implement within one site than simultaneously, or according to the same plan, in a number of sites. The larger in the number of sites at organisation, they have more difficulty of controlling its implementation and developing an integrated approach to TQM (Mann and Kehoe, 1995). Furthermore, implementation of TQM needs a stable organisation structure as an unstable organisational structure can threaten the implementation of TQM. Manny and Kehoe (1995) emphasise that TQM is likely to be more quickly accepted in a 'new organisation' or a 'young organisation' rather than established organisation. A new or young organisation can introduce TQM as a natural

element of its organisation while an established organisation may need to introduce some changes.

Siehl and Martin (1990) have argued that organisational culture can have a strong influence on quality. However, it was mostly the linkages of culture with TQM that were examined in research studies. A natural extension of the pursuit of research in the culture-TQM direction was the examination of the influence of national culture on quality because of the inherent differences of many national cultures from the Japanese culture. However, there are two views on the relationship between TQM and organisational culture (Prajogo and McDermott, 2005). One view is TQM a standard set of procedures that requires a similar culture with an emphasis on flexibility and people orientation, whilst a competing view considers TQM as having different facets (for example, standardisation and flexibility at the same time) and different cultural aspects promote these divergent aspects. Prajogo and McDermott (2005) found support for the latter in their study of manufacturing companies in Australia and New Zealand. However these differences, and the academic literature in both views brings out the centrality of organisational culture in the implementation of TQM.

One of the important reasons for the research interest in TQM was the wide popularity of TQM practices in organisations in the 1980s and 1990s. While some of these studies emphasise the need for compatibility between the philosophy of TQM and national cultures (Gomez, 2004), some studies only highlight the need for the arrangement of organisational culture with TQM (Maull *et al.*, 2001). Some of these studies highlight the role of organisational culture in improving quality. For example, Kanousi (2005) found that the cultural dimensions of individualism, masculinity and long-term orientation were related to service recovery expectations. Indeed, Jabnoun and Sedrani (2005), in his study about UAE manufacturing firms, found that the TQM practices of customer satisfaction, continuous improvement, management commitment to quality and benchmarking were highly related with people-oriented and outward-oriented aspects of culture.

### 4.10.3 Social, Cultural and Economic Environment in TQM

According to Khan (2000) the socio-political or cultural environment interacts with the many other possible factors, among them, 'organisational culture, impact of technology, market issues, nature of industry and the 'manager psyche' towards change'. Consideration of these conditions and the likely impact of any change requires an appropriate response from the TQM implementation strategy adopted. The dynamics of the social, cultural and economic environment impact on the management of organisational change. This is likely to be especially critical in Iran which is the focus of this study, however, according to Khan (2000), 'where economic transformation is taking place, workforce is extremely multicultural and socio-political framework is quite unique'. Khan (2000) argued, 'therefore, no one should attempt to universalise the issue and import a model without first conducting some basic groundwork unique to the Middle East'.

However, consideration of culture and associated environment factors points to the growing awareness concerning the exact nature of TQM implementation. As theory and systems become increasingly elaborate and understanding more refined, the organisational challenges of today to TQM are more contextual than theoretical, 'challenges are, to a large extent, not attributed to the principles of TQM, but rather to the methodology and strategies used to implement it' (Al-Shammari, 2000).

A recent example on relating TQM with culture, contextual and environmental factors is about the Japanese post-war success.

Jarrarand and Aspinwall (1998) referred to prevailing assumptions in management thinking, when they said, 'Japanese success, usually attributed to TQM, is now being attributed to cultural differences, and not only to TQM itself'. The case for the relevance of cultural impact has been fuelled by awareness of the Japanese experience, coupled with a growing awareness of difficulties in implementation within other socio-cultural contexts. Japanese cultural factors include a happy combination of an indigenous persevering work ethic, respect for formal authority, concentration on the task at hand, tranquillity and postponement of reward and gratification (Ibid). All of these factors,

either alone or in some combination, found in the Japanese culture must be considered in any assessment of Japan's successful use of TQM.

#### 4.11 Summary

In this chapter the researcher has surveyed the literature concerning the most important factors in the process of TQM implementation. An extensive review of the literature on quality management was performed for the purpose of clarifying critical factors that are essential for TQM implementation, and a number of researchers have made attempts to quantify these factors. However, this study is the first attempt to understand quality management in Iran by considering important factors in the process of TQM implementation. This study contributes to the understanding of quality management practices in Iran and the UK. It also provides a better understanding of quality management practices in a different environment, one having a different cultural, social, and economic system. Finally, this study provides empirical results to test whether the UK practise of quality management are applicable in another country, while determining the effect of quality management constructs on the operational and business results.

Therefore, the above review leads to this research study of the relationship and effectiveness of TQM with culture in organisations as well as national culture.

## **Chapter Five (Methodology)**

## 5. Introduction

The aim of this chapter is to describe the research methodology that has been applied in undertaking this research and to explain the steps followed and the methods employed by the researcher to collect the data. This chapter starts with an overview of the research methodology and paradigm. This is followed by a detailed description of the data collection methods adopted in this research including a justification for the research population and sample selection. This procedures undertaken relating to questionnaire design and plan, interview, pilot work, question types and format, the covering letter, content of the final version of the questionnaire, administering the questionnaire, the respondents, checking for non-respondent bias and reliability and validity evaluation are also discussed. Finally, the chapter concludes with a discussion and justification of the statistical methods and techniques used in the data analysis in order to fulfil the objectives of the study.

### 5.1 Research Methodology and Paradigm

Saunders et al (2007) distinguished between two terms that some writers use interchangeably, “Research Methodology” and “Research Method”. Research methodology refers to the overall approach to the research process, from the theoretical underpinning to the collection and analysis of the data. Research methods, on the other hand, refers only to the various means by which data can be collected and analysed. Saunders et al (2007) argued that there are two approaches (paradigms) from which research methodology can be derived, a “positivistic” approach and a “phenomenological” approach. These two approaches are sometimes explained by different terms. For example, the “positivistic” approach can be termed as “quantitative”, “objectivist”, “scientific”, “experimentalist”, “traditionalist”, or “empiricist”, whilst the phenomenological approach can be termed as “qualitative”, “subjectivist”, “humanistic”, “interpretivist” or “post-positivistic” (Saunders et al, 2005). The terms that relate to each approach are not necessarily interchangeable and, in many cases, have arisen as a result of the author wishing to stand for a different approach.

The positivistic approach seeks the facts or causes of social phenomena, with little regard to the subjective state of the individuals and thus logical reasoning can be applied to the research so that precision and objectivity can be achieved when investigating research problems and explaining the results. Explanation consists of establishing any type of relationships between the variables and linking them to a deductive or integrated theory. The phenomenological approach, on the other hand, arose as a result of criticisms of the positivistic approach application in social science and it stems from the view that reality is not objective and exterior, but socially constructed and given meaning by people (Ibid). Thus, the act of investigating reality has an effect on that reality and considerable regard is paid to the subjective state of the individual. More specifically, this approach to research stresses the subjective aspects of human activity by focusing on the meaning, rather than the measurement, of social phenomena (Saunders, et al, 2007)

However, the major difference between the positivistic (quantitative) and the phenomenological (qualitative) paradigms of scientific inquiry can be illustrated through the overall approach followed by each of these paradigms, with regard to the generation of knowledge. On other hand, the most significant distinguishing feature between the two approaches is that adopting either approach leads the researcher to employ a specific research methodology. Adopting the positivistic approach requires a research methodology that is concerned with hypotheses testing by collecting and analysing quantitative data in order to arrive at generalisable inferences which are often based on statistical analysis (Saunders, et al, 2007). Cross-sectional studies, longitudinal studies, experimental studies and factorial studies are considered as types of research that can be grouped together under the heading “positivistic methodology” (Ibid). On the contrary, adopting the phenomological approach requires a research methodology that is concerned with generating theories by collecting and analysing qualitative data in order to describe and discuss a phenomenon in its context. Any type of case study such as descriptive, illustrative, experimental and explanatory falls into this category of research methodology (Ibid).

However, Hussey and Hussey (1997) summarise the features of two main approaches as shown in table 5.1.

Positivistic (Quantitative) approach	Phenomenological (qualitative) approach
<ul style="list-style-type: none"> <li>• Tends to produce quantitative data</li> <li>• Uses large sample</li> <li>• Concerned with hypothesis testing</li> <li>• Data is highly specific and precise</li> <li>• The location is artificial</li> <li>• Reliability is high</li> <li>• Validity is low</li> <li>• Generalises from sample to population</li> </ul>	<ul style="list-style-type: none"> <li>• Tends to produce qualitative data</li> <li>• Use small sample</li> <li>• Concerned with generating theories</li> <li>• Data is reach and objective</li> <li>• The location is natural</li> <li>• Reliability is low</li> <li>• Validity is high</li> <li>• Generalises from one setting to another</li> </ul>

**Table 5.1 Features of the two main approaches (Hussey and Hussey, 1997, P.54)**

Each of the two main methodologies has its advantages and disadvantages. Table 5.2 provides a summary of some strengths and weaknesses of the two approaches.

Approaches	Strengths	Weaknesses
Positivist	<ul style="list-style-type: none"> <li>-They can provide wide coverage of the range of situations</li> <li>-They can be fast and economical</li> <li>-Where statistics are aggregated from large samples, they may be of considerable relevance to policy decision</li> </ul>	<ul style="list-style-type: none"> <li>-The methods used tend to be rather inflexible and artificial</li> <li>-They are not very effective in understanding process or the significance that people attach to action</li> <li>-They are not very helpful in generating theories</li> <li>-Because they focus on what is, or what has been recently, they make it hard for policy makers to infer what changes and actions should take place in the future</li> </ul>
Phenomenological	<ul style="list-style-type: none"> <li>-Data gathering methods are seen as natural rather than artificial</li> <li>-Ability to look at change process over time</li> <li>-Ability to understand people's meaning</li> <li>-Ability to adjust to new issues and ideas as they emerge</li> <li>-Contribute to theory generation</li> </ul>	<ul style="list-style-type: none"> <li>-Data collection can be tedious and require more resources</li> <li>-Analysis and interpretation of data may be more difficult</li> <li>-Harder to control the pace progress and end-points of the research process</li> <li>-Policy makers may give low credibility to result from qualitative approach</li> </ul>

**Table 5.2 Strengths and weaknesses of positivistic and phenomenological approaches (Amaratunga et al., 2002, P.20)**

Saunders et al (2007) pointed out that the positivistic and phenomological approaches are two extremes of a continuum and it is unlikely that researchers, in social sciences, operate

within their pure forms. Although the basic beliefs of the two approaches may be quite incompatible, the differences between the actual research methodologies adopted by the researcher are not always clear cut. Therefore, the choice of either methodology should be based on the research questions and objectives which are to be addressed by the researcher.

The researcher is going to use the quantitative (positivistic) approach in the present research. Specially, in order to answer the research questions and fulfil the research objectives, a cross-sectional study as a type of research methodology is applied. This is because the empirical study is designed to examine the linkage between particular variables, to test precise hypotheses and to find out the answers to questions in the form of ‘what’ and ‘why’ rather than ‘how’ or ‘how often’.

### 5.1.1 Quantitative Methodology

The quantitative methodology reflects the positive thinking that research should concern itself with “observable social reality” (Remenyi et al, 2000). The belief that observed phenomena are measurable, and that “it should be possible to generalise or to model, especially in the mathematical sense, the observed phenomena” is also expressed (Ibid). The emphasis is on “quantifiable observations that lend themselves to statistical analysis”. Thus, much of the methodological rationale for the present study rests on positivist assumptions and an acceptance of positive-quantitative limitation that findings based on quantitative analysis could be shallow and, hence, not representative of the true dynamics of the research question under examination.

However, in management studies the quantitative methodology has not been widely relied upon to provide general laws or boundaries for research investigation in recent years. Rather, quantitative analysis, standard instruments and often extended surveys of populations or statistically rendered samples provide a starting point for investigation and a rational incentive for in-depth analysis. Quantitative procedures can provide an initial

assurance of representative data and a tentative insight into probable areas and factors of generalise ability (Mc Clintock et al, 1979).

Research may lead to information and understanding that has surface meaning and implications. However, this can be a starting point for a process of investigation that has reasonable expectations for problem solving grounded on prior research finding. On the other hand quantitative methodology and findings, despite attributes wonderfully constructed to reveal social structures and to correlate with and build upon the larger body of similar research, and limited in revealing of, this process, as well as its meaning, purpose and motivation. Thus, such reliance upon quantifiable data and statistical application, may act to over-simplify the subject matter by concealing its context. This context is essential to make sense of a situation in a way that allows further engagement for problem solving (Wong, 1992).

### 5.1.2 Qualitative Methodology

The qualitative methodology emphasises the unfolding of social processes (Van Maunen, 1979), primarily through the exploration of the research participants “own situated experiences” (Symon and Cassell, 1998). When forming a quantitative theory, there is a tendency for an “overarching reductions explanation” (Ibid). The use of qualitative research may thus compensate for any failure to explore in depth “the richness and significance of individual experience” (Ibid).

However, qualitative methodology, in contrast to quantitative, statistical, and positivist perspective, is “phenomenological” in approach (Remenyi et al., 2000). This to say, qualitative methodology reflects ‘a theoretical point of view that advocates the study of direct experience taken at face value; and one which sees behaviour as determined by the phenomena of experience rather than by external, objective and physically described reality’ (Remenyi, 2000). Qualitative analysis focuses upon certain assumptions in the phenomenological perspective about “the primacy of subjective consciousness” over and

above those external objective physical phenomena that can be observed, described, measured and statistically analysed (Ibid).

However, qualitative method can provide an insight into the intangible aspects of complex social and organisational areas of study. This can provide meaning through reconstruction, perception, and interpretation. The research participant's interpretation, observation, perceptions, conclusions and trains of thought bring a sense of meaning and order, or simply some sense of continuity and stability, to their experiences. This is the data that helps the researcher understand what the participant is witnessing through his own eyes and with his own feeling and intuitive responses. It offers the researcher the prospect of understanding a situation first hand (Burgess, 1984; Bryman, 1992).

The qualitative approach to the examination of social issues, including those in business, organisation and management is carried out primarily through interviews. Individual interviews tend toward in-depth probing and a rather intensive exploration of the research participant's individual perceptions, analyses, awareness, interpretations, and feeling (Ibid).

The qualitative approach often uses semi-structured or open-ended interviews. The categories used initially by the researcher should be capable of modification if they are not to become limitations that obstruct the ultimate objectives of the research. The respondent's point of view is more readily available, more forthcoming to the extent that the categories and directives are its own and not those of the researcher (Ibid). The researcher's real aim and task is to discover the world as the respondent experiences and understands it, and to communicate whatever is available through the respondent's eyes (Bryman, 1992, Wong, 1992). Intensive research exposure to an informant's personal insight and interpretation works toward a sense of knowledge and meaning. The shared discourse between researcher and information is the wellspring of meaning. It is viewed as a creative, ongoing, and evolutionary process. It is not deduced from a sense of absolutes, nor does it tend toward a narrow system of laws and principles (Symon and Cassell, 1998).

On the other hand, case study is a typical research method widely used for qualitative data collection in management research. Remenyi et al. (2000) emphasise that ‘the case studies are being increasingly used in business and management studies as an evidence collection approach for several reasons including the fact the scope of the case is extensive, ranging from individuals to business groups, to fiscal policy’. Yin (1994) defines case study as an empirical inquiry, which investigates a contemporary phenomenon within its context.

However, the data for a case study are usually obtained from a different data collection approach. Remenyi et al. (2000) identifies six important sources of evidence used in case studies. These are documents, archival records and interview as well as from any person who has knowledge of the subject, observations of the researcher, participant observer interactions as well as physical artefacts. Using multiple sources of information serves to expose the inner dynamics of the case under observation, rather than to arrive at statistical generalisations. It also contributes to a detailed understanding of the phenomenon under investigation (Aaker et al., 1998).

### 5.1.3 Multi-methods approach (Triangulation)

Based on the arguments provided by Saunders et al. (2007), and also by Easterby-Smith et al. (2002) that, in reality, business research rarely falls under one specific research philosophy, positivism (quantitative) or phenomenology (qualitative), most management and business research often uses a combination of both approaches. According to Saunders et al. (2005), it is better to combine approaches within the same piece of research. In this regards, Esterby-Smith et al. (2002) also stress that the distinction between a quantitative and qualitative approach is not always clear. However, there are many advantages for this approach. Importantly, researchers can use different methods in combination in the one single study, either because of the research design or because they wish to corroborate the results from one method with the result from another, an approach known as ‘triangulation’. Another advantage, according to Creswell (2003), is

that it is beneficial for the researcher to be “pragmatic” in mixing research approaches and methods in a single study of social phenomena.

Using triangulation in one study has a number of advantages in that it provides a kind of convergence of results complements findings reached from analysing various observations and enhances the scope and breadth of a study (Creswell, 2003). On other hand, Creswell (2003) has suggested three approaches to combined research designs. First, the two-phase design approach, according to which the researcher conducts a qualitative phase of the study and a separate quantitative one. Second, the dominant less dominant design approach, in which the study is presented within a single, dominant approach with one small component of the overall study drawn from the alternative paradigm. Third, the mixed-methodology design approach, which represents the highest degree of mixing approaches of the three designs. Using this approach the researcher mixes aspects of the qualitative and quantitative approaches at all or many methodological steps in the design.

## 5.2 Approaches to the Research

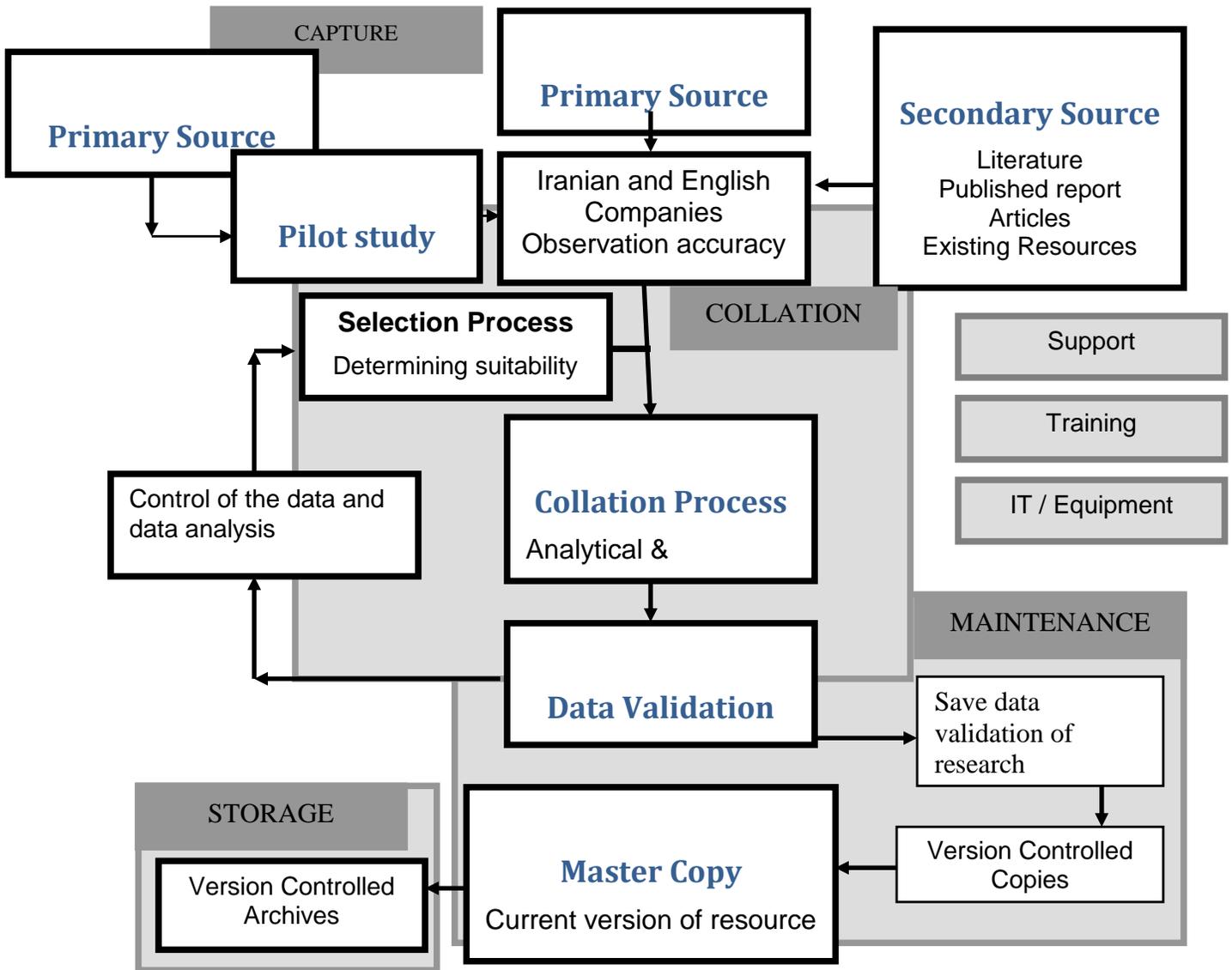


Figure 5.1 Approach to the research

The first issue after decidin to undertake a dissertation on the subject is to establish what area of the subject to focus on. Several areas seem appropriate to study that are work related, and would prove to be useful to Iranian and English companies. The topic will also be beneficial to me in terms of being an interesting and stimulating subject to research. Consequently, during this research a decision was made to concentrate on, culture, organisational culture in all levels of organisation, and concentrate on, quality of products in Iranian and English companies. The research will consider total quality

management (TQM) and the role of general management in those companies. It feels that the use of qualitative data through interview will be appropriate to address the research aim. The qualitative aspect of the research design will be, 'Multi-method in focus, involving the interpretive, naturalistic approach to its subject matter. This means that qualitative research study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meaning people bring to them.' (Bell, 1999, P.2)

The research process generally consists of answering the main question and subsidiary questions, collection of data by semi structure interviews and questionnaires, analysis of the data, and result presentation to the hypothesis or the solution of the research. However, the steps in management research interact and depend on each other, each step is to be /planned to ensure the right implementation of the research process.

The case studies approach will enable engagement with employers and some managers of the companies in such a way as to 'identify various interactive processes at work' (Bell, 1999, P.8). This process will the research to analyse the unique relationship between organisational culture and TQM.

The information collected in this way will be supported with quantitative data that will enable different perspectives and the corroboration of findings to be undertaken.

It is important to think these matters out clearly before the research commences, as this helps researcher to choose the best means of data collection. It is believed that the aim of this research can best be achieved by the researcher choosing to collect the evidence by a questionnaire, an interview and observation. The researcher will discuss his reasons for choosing questionnaire and interview in the next section.

### 5.2.1 The research design and the rationale behind this choice

It is worth mentioning that this particular research, like many others in management studies, does not fall under one particular research philosophy: positivism or phenomenology. Rather, it is a mixture of the two philosophies and a mixture of quantitative and qualitative methods, which facilitates a flexible research design.

After the researcher had reviewed the literature on research methods in social science, generally, and decided the research questions and objectives, in addition to considering all methodological limitations, criticisms and issues relating to organisational culture and TQM, the researcher found that the multi methods approach (method triangulation) conducted through questionnaire, semi-structure interview and observation in a complementary way, rather than competition with each other, was an appropriate and flexible way to conduct this research. The reasons behind these choices are justified in the following.

- The research is to be conducted in the context of Iranian and British organisations. It is designed to explore the current situation and practices of TQM in terms of training implementation process, delivery methods and training evaluation and follow up; also, to identify all the problems and challenges that might confront TQM function and programmes. In addition, the role of TQM in achieving the organisation's strategic objectives and improving the organisation's performance will be explored. Achieving all of these aims requires applying a multi-methods approach (qualitative and quantitative) including a questionnaire, a semi-structured interview, and observation as the main primary data collection methods, in addition to the survey of the available secondary data. Moreover, most of the research questions and objectives are exploratory in nature; the investigation is based on top managers, and TQM manager's viewpoints and experiences (perceptions) in the context of Iranian and British organisation. That requires applying many data collection methods and exploring themes underpinning the research objectives, rather than relying only on one particular

method. The adopted approach provides useful quantitative and qualitative data, which generate a rich wealth of data and interpretation.

- As mentioned in chapter 2 there are few empirical studies conducted in the field of organisational culture and TQM in Iranian organisation and a lack of studies examining TQM and organisational culture relationships, but research could draw hypotheses to be tested.
- The chosen research design and approach is also used by other Iranian researchers who have conducted studies related to TQM and organisational culture in different contexts, such as, Mosadegh Rad (2006), Abzari, and Dalvi (2005), Javidan and Dastmalchian (2003), and Mortazavi et al (1999). Those Iranian researchers found that a multi-method approach combining questionnaires and interviews is the most applicable and acceptable research method in Iran. Applying the same research design used by other Iranian researcher strengthens the current study consistency, validity and reliability since some part of research conducted in Iran.
- Based on the nature of the research questions and objectives, it is obvious that this study includes many subjective variables or factors. These need to be investigated and measured through qualitative and quantitative method. The research includes many social behavioural factors, beliefs and attitudes that need to be explored and explained in detail. Therefore, applying the chosen research design helps the researcher to address all required qualitative and quantitative data that provide more flexibility to meet multiple research interests and needs to facilitate using different quantitative and qualitative data collection methods in one study, which will enrich the findings from this study.
- This approach enables methodological triangulation, which refers to using different data collection method within one study, in order to ensure that data are telling you what you think they are telling you, in other words, generate more validity and reliability (Saunders et al, 2007). Triangulation involves crosschecking for internal consistency and external validity, which is a concern of this study. In this regard, Saunders et al. (2007) indicate that semi-structured

interviews, applied with other data collection methods like the questionnaire, and observation, are very valuable ways of triangulation.

- Statistical analysis of the quantitative data collected will make summaries, comparisons and generalisation relatively easy and accurate, while qualitative data will provide a forum for elaboration, explanation and description of events, actions, attitudes, behaviour and lead to more meaningful and new ideas from the perspective of the subjects who are being investigated (Bryman, 1992, P.61). This will provide a more rigorous understanding of the subject under investigation.

### 5.3 Population studied

It would be useful to start this section by identifying the many reasons for choosing Iran and England as places to conduct this research. Importantly, Iran is the home country of the researcher, which means that the researcher is able to collect the required information of his research without any difficulties regarding the language, cultural difference, time issues, and so on. The researcher understands the ethical issues concerned in conducting a research in Iran and England. The other important reason is that there is a shortage of empirical studies concerning TQM in developing countries, including Iran, also, concerning TQM and organisational culture relationships. This point emphasises that Iran, as a developing country, needs empirical studies in the field of TQM which might improve the TQM situation and practices and the way in which organisations look or consider TQM also, they will support decision makers to have useful information required to improve TQM roles and effectiveness in the organisation.

### 5.4 Sampling

Sampling can be defined as the ‘process of obtaining information from a subset (a sample) of a large group (the universe or population)’ (McDaniel and Gates, 2001). McDaniel and Gate (2001) define a population as the totality of units or people about whom the researcher needs to obtain information. A population is seen to be a complete group of people that constitute a community, a society, an organisation, or anything that

may have some common characteristics or criteria. However, sampling allows the researcher to identify some vague, unknown characteristics of the population. When the number of population is similar, only a small sample can be used to conduct the study. Sometimes, it is entirely impossible to collect data, or to test, or to examine every element in terms of time, cost and other human resources (Sekaran, 2000). However, for different reasons, it would be successful to restrict the study of the population to sampling some of its members and then generalise it on the whole population (Ibid).

#### 5.4.1 Type of Sample:

Sampling techniques fall into two broad categories, namely probability samples and non-probability samples:

- **Probability sampling**

The probability sample is based on chance selection procedures. In probability sampling, every element in the population has a known non-zero probability of being selected, and the selection of probability samples will always respect certain statistical rules that are not subject to the interference of the researcher (Sekaran, 2000). Because of its randomness, the probability sampling procedures eliminates the bias associated with the non-probability sampling (Remenyi et al, 2000). One of the advantages of using the probability sampling is that it allows the sophisticated use of statistical tests to research for group differences.

However, a researcher's choice of probability sampling depends on the research questions and objective and whether the researcher needs to make statistical inferences from his sampling (Ibid). The impact of each of these is summarised in table 5.3.

Sample technique	Sampling frame required	Size of sample needed	Geographical area to which suited
Simple random	Accurate and easily accessible	Better with over a few hundred	Concentrated if face to face contact required, otherwise does not matter
Systematic	Accurate, easily accessible and not containing periodic patterns. Actual list not always needed	Suitable for all sizes	Concentrated if face to low face contact required otherwise does not matter
Stratified random	Accurate, easily accessible, divisible into relevant strata	Suitable for all size	Concentrated if face to low face contact required otherwise does not matter
Cluster	Accurate, easily accessible, relates to relevant clusters not individual population members	As large as practicable	Dispersed if face to face required and geographically based cluster used
Multi-stage	Initial stages: geographical. Final stage: needed only for geographical areas selected see comments for simple random and systematic	Initial stages: as large as practicable	Dispersed if face to face contact required, otherwise no need to use this technique.

**Table 5.3 Impact of various factors on choice of probability sampling techniques (Saunders et al., 2007)**

According to Saunders, et al, (2007), the researcher's need for face to face contact with respondents, the geographical area over which the population is spread, and the nature of the researcher sampling frame will affect his choice of probability sampling technique. (Figure 5.2)

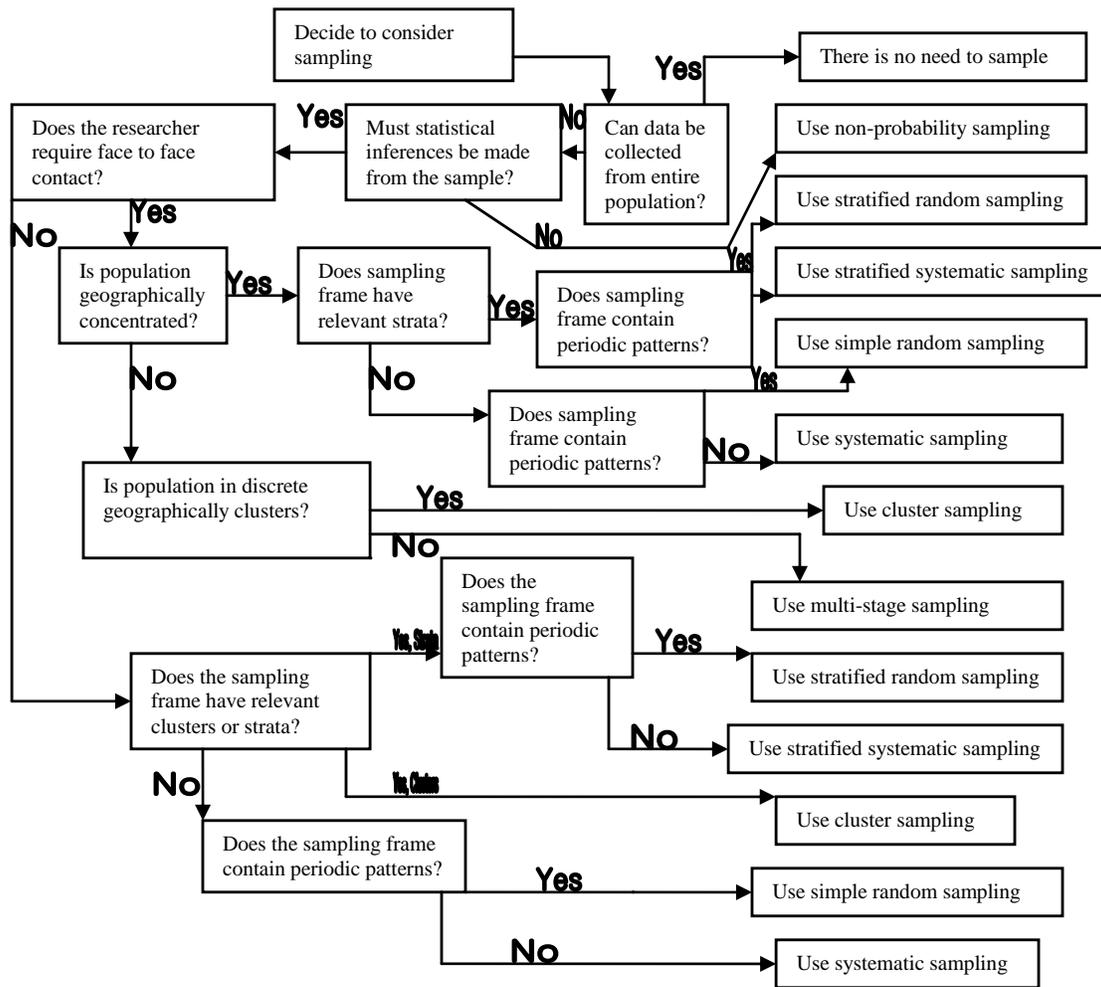


Figure 5.2 Selecting a probability sampling technique (Saunders et al., 2007)

- **Non-Probability Sample**

Non-probability sampling, which is based on the subjective judgments of the researcher, is usually used in exploratory research (Remenyi et al, 2000). Non-probability sampling can be useful when the population is small or the random sampling is not possible (Ibid). In

this type of sampling, it is unlikely to specify or categorise the probability of each unit in the sample. This implies that there is no chance for units to be selected (Saunders et al, 2005). The more popular non-probability sampling methods include the following:

- **Convenience Sample:** this involves the population members who are easily located and willing to participate. Convenience sampling is commonly used in exploratory research to generate hypothesis, to test pilot questionnaires. However, this type of sampling is rarely general, because some more important elements are not available or include (Saunders et al, 2005).
- **Quota Sample:** this sampling tries to divide the population into subgroups. Based on the percentage of the population in each sub-group, subjects are selected so that the sample matches the population proportion exactly. The main goal of this type of sampling is to ensure that the sub-groups in a population are well represented in the sample to the extent the examiner desired (Ibid).
- **Judgement Sampling:** Judgement samples, also called purposive samples, are samples in which the selection criteria are based on the researcher's personal judgement about the representative of the population under study (Ibid).
- **Snowball Sampling:** this is often used when population members are to identify other numbers of the population to be contacted. Remenyi et al, (2000) defined snowball sample as 'one where the researcher used information to help him or her find the next information.

## 5.5 Research Sample selection

This study has focused on the characteristics of the organisation, rather than on management descriptions, as the basis for selecting the research sample to be included. However, developing a TQM implementation framework as a research topic is best investigated by studying total quality organisations (Thiagarajan, 1996, Wong, 1999). This involves identifying Iranian organisations with known quality initiatives. The selection process involved finding a mixture of organisations that varied in terms of size, maturity of TQM implementation, and scope of business. This was necessary to elicit responses

that cover different industries in order to make sound generalisations about the whole sample. Thus, the sample includes organisation from manufacturing.

However, the researcher had to select the organisations to be included in the sample on the basis of those who were accredited quality management systems such as the ISO-9000 series and the TQM organisations. The ISO 9000 series certification implies that a quality management system is running in these organisations, although this system may not be observed at a company wide scale. However, it was assumed that ISO registered companies are TQM-oriented, as ISO registration is considered a step towards the implementation of TQM (Bredrup, 1995).

However, determining those organisations which fit identified TQM implementation criteria for this study, involved several procedures. The general criteria perspectives incorporated into the selection format included:

- organisations that adopted quality management
- Organisations certified by ISO 9000
- Organisations that discussed their TQM experience in conferences and journals
- Companies recommended by my supervisor

For this research, the researcher decided to choose a non-probability sampling, and more specifically judgmental sampling. Indeed, the judgemental sampling is a form of convincing sampling in which the population elements are purposely selected based on the judgement of the researcher. In the researcher's case, it was felt that in order to have a quality and a concise analysis of the results, a selection of organisations should be chosen from two main sources in Iran: the ISO office in Tehran and the ISO office in Yazd, I in the UK a selection of companies with TQM was a compulsory requirement.

## 5.6 Collection methods

The researcher seeks to identify the effects of organisational culture on TQM, and then to do an analysis of interview and questionnaire result. Therefore, the researcher must procure enough information from the research to make this possible. When deciding to conduct research, regardless of the type of research, it is important for the researcher to choose the best way to collect data. According to Bell (1999) there are eight kinds of instrument or methods for data collection i.e. interview, telephone interview, observation, questionnaire design, statistical significance, multilevel modelling, laddering in personal constructs, speech act theory and item response theory and computer-adaptive testing. This research used questionnaire and semi-structure interview because these methods were simple and efficient. This research used closed questions for both the questionnaire and the interview, because this facilitated gathering data for analysis.

### 5.6.1 Interview

On data collection method used in this study was face-to-face semi-structured interviews, since the study is dealing with different subjective factors and variables which need to be explored in depth; therefore, it was found that semi-structured interviews are an appropriate data collection method for this study. Saunders et al. (2007) define an interview as a purposeful discussion between two or more people. It helps to collect valid and reliable data that are relevant to research question and objectives. Therefore, an interview is a face to face or vice-to-voice conversation that is directed and conducted by a researcher to obtain or elicit relevant data, information, expression, opinions and beliefs that are relevant to the research objectives.

Personal face to face interviews can be divided into three types: in-depth unstructured informal interviews, structured interviews and semi-structured (Ibid). In the structured or standardised interview, a set of pre-determined questions is asked so that the responses are recorded on a standard schedule. The semi-structured interview is a non-standardised interview; the researcher has a list of questions to cover during the interview, however,

semi-structure-interviewing is a widely used research method having the advantages of being flexible, since it is possible to follow up and probe the answers and often additional information can be obtained. An unstructured or informal interview is also called an in-depth interview and has no predetermined list of questions, however, the researcher or interviewer has to have general ideas about the areas or aspects to be explored since this type of interview helps to explore a general area in depth. On the other hand, respondent is given the chance to talk freely about the situation, event, behaviour or beliefs in relation to the topic area.

Information, regarding the current situation at Iranian and English companies, was acquired by conducting semi-structured interviews to find company's views on the culture, organisational culture, and TQM. However, the rationale for using semi-structured interviews in this study was that the other Iranian researchers have chosen the face to face semi-structured interview technique as means of data collection, in addition to a survey questionnaire, to conduct their research such as, Abzari, and Dalve (2005), Javidan and Dastmalchian (2003), and Mortazavi et al (1999). These researchers found that this technique is very helpful in Iranian organisations, where managers prefer to talk rather than to complete a questionnaire. In addition, they complement the questionnaires and can explore or explain, in depth, any further details, information, themes and facts under investigation behind the questionnaire's responses; in other word supplement and validate the questionnaires' findings. Also, the interviews provide the researcher with some important information when interpreting the questionnaires' findings.

#### 5.6.1.1 Interview data collection

Data collection was not a smooth process with a constant stream of data being logged. The volume of data that the researcher collected grew over time, and the influx of data increased as the researcher spent more time on the project. In the early stages, especially on the projects in Iran as the researcher was getting to know the project, the researcher was constantly concerned that the researcher was getting no data since the researcher was not making any interesting observations. In the UK the researcher collected data mainly

through ethnographic interviews (Spradley, 1979) in which the researcher asked participants to talk about the challenges they faced in the companies. In Iran, since the researcher had more time, he adopted a different approach. He spent a week reviewing all sorts of documentation in the organisations such as production plans, organisation charts and progress reports to gain an understanding of the state of the companies and the participants involved. The researcher then spent a month exclusively conducting direct observations of various meetings. The researcher sat in the back of the room at these meetings and jotted down notes about the incidents that unfolded. At the end of a month, the researcher had a good idea of the main issues and challenges that the companies were facing. The researcher then started to interview people in parallel with making ongoing observations in meetings to attempt to learn more about the events that the researcher observed. During the three weeks stay in Iran and one month in the UK, the researcher exclusively conducted interviews with head of ISO, and ten companies' manager in Iran (Setareh Kavir Carpet Co., Khtereh Kavir Carpet Co., Kabir Carpet Co., Rangrazi Yazd Co., Alyaf Yazd Co., Nasaji Yazd Co., Yazd Shahab Co., Pars Medad Co., Yazd Syringe Co., Tak Mackaron Co.) and five companies managers in the UK (Sellers Engineering Co., ID Williams (N Brown Group)., Pneumatic Conveyors Co., Huddersfield Wire., James Holdsworth Co.). Most of these interviews were ethnographic in nature, where the researcher explored the issues of conflicts on organisational culture and TQM that gave rise to them. The researcher tried to see how these views related to the observations that the researcher made. Some interviews were more structured in nature. The researcher had specific questions to ask or even hypotheses that the researcher tested through interviews. Most of the interviews in Iran were tape-recorded.

Some informants provided good data, while others were practically useless. Saunders et al (2007) recommends choosing informants who are interested in the research, who are knowledgeable, and who can articulate accurately. The researcher tried to identify and develop informants from various groups who fit these criteria, and who would be able to provide rich information. It is important to conduct interviews at all levels, since no single group in the field can be considered representative of the entire set of participants (Ibid).

The researcher therefore conducted interviews at various levels of organisations. By collecting data from different companies, the researcher could strengthen the internal consistency of his findings as well as the validity of his research (Yin, 1994). Other researchers advise maintaining a daily journal of field notes in addition to conducting interviews or making observations (Eisenhardt 1989; Van Mannen 1988) a strategy that the researcher adopted. At the end of every interview the researcher spent a few minutes writing down some of the highlights from the interview. At the end of the day, the researcher wrote down a narrative of the meetings that the researcher had attended and the interviews that the researcher had conducted. The researcher was then in a position to review his data without having to transcribe his interviews while still in the field.

In the UK, the researcher did not have much of a choice as the researcher received a predetermined interview schedule. In Iran however, the researcher considered how to collect data systematically on large companies with so many activities taking place. In addition, there were several substantive areas on the companies in Iran such as sales departments, quality departments and production groups. The researcher attempted to interview people and attended an approximately equal number of meetings in all of these areas so that the data would not be biased towards one substantive area.

However, the researcher was kept quite busy running from meetings to site visits to interviews throughout his stay in Iran. In his data collection, the researcher was able to identify and note down discrete incidents that occurred in meetings that he attended. In addition the researcher was able to note down indicators relating the setting of the incident. By doing this in a systematic manner for most meetings or the researcher attended, the researcher was later able to count and identify the frequency of different events, prove that some of them occurred on a regular basis, describe what happened, and analyze what happened when some of the contextual parameters changed.

Completing data collection, researchers must make a choice about when to stop data collection. The researcher's choice was governed by both theoretical and practical

factors. Ideally the researcher would have reached the point of ‘theoretical saturation’ where no new insights are being obtained (Glaser and Strauss 1999). In Iran, although complete theoretical saturation might have been virtually impossible to achieve, the researcher opted to stay until he felt that he had reached a point where he understood the causes, the effects and the processes behind most of the institutional challenges that occurred on the projects. Towards the end of my stay, the researcher felt he was receiving new stories or insights only at a very slow rate. Several practical issues also had to be considered. In the UK, the organizations had only offered him one meeting. This kind of time pressure was absent for Iranian case study. However, the researcher had to make a decision in Iran to keep in mind the fact that he had to spend sufficient time analyzing his data and writing up, and that he wanted to graduate in the near future.

#### 5.6.1.2 Interview analysis

Data collection is succeeded by data analysis. However, many scholars advocate blending data analysis with data collection (e.g. Eisenhardt 1989; Strauss and Corbin 1998). There is much wisdom in this approach since, once a set of data are analyzed, there will inevitably be gaps that have not been addressed and missing data. By coupling data collection and data analysis, missing data can be gathered in real time as the need arises. Typically, researchers collect data, take a break and return to home base to analyze the data thoroughly, and then re-enter the field armed with the knowledge that results from their analysis.

In order to analyze his data, the researcher maintained the practice of writing daily field notes summarizing meetings and interviews conducted during the day. These notes were very important in light of the fact that the researcher did not have time to transcribe interviews in the field. Every Sunday the researcher reviewed the daily notes of the previous weeks to refresh what he had learnt and to develop a mental picture and preliminary theories of the project. Based on these notes, the researcher came up with models that the researcher had investigated or wished to investigate. Depending on the amount of information he lacked on each of these constructs, the researcher then prepared

a tentative schedule of meetings to attend and participants to talk to in the following weeks, to help shed more light on his research questions. The researcher then set up meetings and executed this schedule during the week, and repeated this process the following Sunday. Over a period of time, the researcher collected more data points and developed confidence that the researcher had sufficient information to theorize about and describe challenges on organisational culture and TQM. This approach helped him to analyse data in parallel with data collection in a fast-paced environment. Having iterated between field data and his concepts, and having reached a point where he felt reasonably certain that he had gathered enough data to provide descriptions of the effect of organisational culture on TQM, and then he returned from the field to apply his self to detailed analysis of the data.

#### 5.6.1.3 Interview Analysis method

The process of data analysis started with data collection. The method of analysis was to use my data to generate ‘codes’ or categories of interest (Barley 1992; Strauss and Corbin 1998; Glaser and Strauss 1999). The researcher first used a process of ‘Open coding’ (Strauss and Corbin 1998). As the researcher read through his transcripts or field notes, the researcher isolated specific instances or incidents and assigned them to a ‘code’ that described the incident. Since any incident could be viewed from several perspectives, some segments of data were assigned to multiple codes or categories. As the researcher coded increasing amounts of his data, the researcher found some codes or concepts that were highly recurrent, whereas some codes had only a few segments of data within them. The researcher selected the codes that occurred frequently and use these codes as the basic constructs or concepts that helped explain the effect of organisational culture on TQM. The process of identifying and selecting these codes was not quite as linear as the researcher has suggested. After spending two months in Iran, the researcher had intuitions as to what variables and concepts were critical to the behaviours that the researcher had observed on TQM implementation. These concepts were his starting points for analysis, and the researcher used these categories or themes as the initial set of codes that the researcher applied to the data. Codes also emerged as the researcher analyzed his data, as

the researcher uncovered an incident that would not fit into any of the existing categories. Often times however, the researcher found his self force-fitting a code onto a segment of data. The researcher then realized that the code that the researcher had used was too general or simplistic and perhaps needed to be split into more specific codes that the researcher could subsequently use to label segments. The researcher then recoded the data with these new codes since the original code was now obsolete.

After generating a set of high-level codes from his data, the researcher went through a process of Axial Coding (Strauss and Corbin 1998) where the researcher attempted to develop sub-codes and sub-categories within each of these codes and understand how these various subcategories related to each other. Initial open coding was similar to taking segments of data that had common properties and putting them into a 'bucket'. In this step, the researcher investigated the contents of the 'bucket' and attempted to order and arrange them in a systematic fashion. For instance, inside a bucket titled 'issues between the customer and the qualities', the researcher attempted to subcategorise the issues into specific themes such as 'conflict due to the organisational culture effect on TQM X' or 'conflicts due to the TQM effect on organisation Y'. In some cases subcategories needed to be split further in order to obtain a clear picture of all the different types of interactions involved. For each category, the researcher investigated the amount or the frequency of data segments that the researcher had collected as well as the magnitude of impact that each of these instances or incidents had on the TQM implementation. Based on the way that the researcher had collected data, the researcher was able to perform some level of quantitative analysis. For instance, having observed several meetings and more than a 10 cases of conflicts between the general manger and the quality manager, the researcher looked through the data and came to the conclusion that a certain process or pattern (sub code) had occurred 25% of the time, while a certain other process had occurred just once. The sub codes that had either very few incidents or incidents that had very little impact on the TQM implementation were considered as not being salient incidents. The researcher then analysed the sub codes where there were many incidents that affected the project. The various incidents were arranged to see which ones replicated other incidents within the same subcategory (and thereby gave more validity to their occurrence) and

how the different types of incidents could be used to build or extend a theoretical model. As an example, within a selected subcategory there might have been several instances where a certain set of parameters led to a certain outcome. The existence of several such instances confirmed the occurrence of this type of incident. Also, within the same subcategory, there may have been several other instances where one or more parameters were different from the earlier set. The outcome of these incidents would also be different. Using these two sets of incidents the researcher was then able to build a 'contingency model' wherein given a set of parameters or inputs; the researcher was able to hypothesise on the outcomes or outputs. In addition, the researcher isolated the effects of a parameter by noting the change in outcomes as this parameter changed. As the researcher performed this analysis, the researcher attempted to sample data theoretically (Strauss and Corbin 1998). The researcher constantly asked questions of his models. For instance the researcher would ask his self that since Parameters X led to outcome Y, what would happen if a certain entity was present or absent in the process such that the set of parameters were different? The researcher then searched his data for such instances, so that the researcher could understand what transpired in the presence and absence of each of the parameters identified within the sub codes. In this regard, the researcher was aided by the fact that the researcher remained in good touch with the participants in Iran. Therefore, occasionally the researcher was able to ask them a question by email and receive a response that contributed to a data point that was missing from his data set.

Using these analysis techniques, the researcher was able to develop theoretical models that explained the observed outcomes on relationships between TQM and organisational culture. The theories built were grounded in the data that the researcher had collected. Having analyzed the data, the researcher selected the institutional factors or parameters (codes) that had an impact on TQM implementation. The researcher then built models that hypothesised an outcome given the presence of a certain set of institutional parameters. As some of these parameters changed, the hypothesised outcomes varied. Since the researcher had detailed observations of incidents, the researcher also explained the process by which a set of parameters led to a set of outcomes. At the end of his

analysis therefore, the researcher had a set of theoretical hypotheses that helped predict and explain the effect of organisational culture on TQM implementation.

#### 5.6.1.4 Final Steps

The researcher's final task was to write up his work into a logical volume that would provide some insights to theory as well as to practice. The process of writing began during the analysis phase. Writing helped clarify some of his analysis and also helped identified gaps in his theoretical models that the researcher needed to fill by returning to the data that the researcher had collected. While writing up his research, the researcher used such strategies as attempting to focus on his 'story' i.e. the processes by which culture affects organisation, and organisational culture will effect TQM implementation, making a logical storyline, showing quotes from the field to provide realism to his theories and portraying dramatic moments to make the story more interesting (Golden-Biddle and Locke 1997).

Several scholars have recommended the comparison of concepts or theories that emerge from such studies with the extant literature in order to make a meaningful contribution to knowledge (Stablein 1996; Eisenhardt 1989). In line with this approach, the researcher revisited several theoretical works as his theories emerged and as the researcher was engaged in writing them up, in order to see how his ideas related to what had already been discussed in the literature, and how they might extend existing discourses. This was an iterative process of periodically revisiting new journal articles and books that the researcher found relevant as a result of the analysis. Based on this 'enfolding of the literature' (Eisenhardt 1989) into his study, the researcher was able to discern and write about the contributions of his work to existing bodies of theoretical and practical knowledge.

Therefore, while the findings from this study may be applied to the companies beyond those that are studied, not all the findings may be general. Apart from the findings of his research, the researcher hopes that this elaboration of the methodology that the researcher

used will provide some modest assistance to other researchers who perform qualitative studies of TQM implementation.

### 5.6.2 Questionnaire

Bell (1999, P.245) provides an insight into the use of questionnaire, he states, ‘the questionnaire is a widely used and useful instrument for collecting survey information providing structured, often numerical data, being able to be administered without the presence of the researcher, and often being comparatively straight forward to analyse.’

According to Jankowicz (1995, P.225), questionnaires rely on written information supplied directly by people in response to questions asked by the researcher. Jankowicz (1995, P.89), argues information from questionnaires tend to fall into two broad categories – ‘Facts’ and ‘opinions’. In view of this, the researcher is searching for both, fact and opinion from the questionnaire. I considered ethical issues within the research context. According to Cohen, et al.(2000, P.245), ‘questionnaires will always be an intrusion into the life of the respondent, be it in terms of time taken to complete the questionnaire, the level of threat or sensitivity of the questions, or the possible invasion of privacy.’

However, according to Saunders et al. (2007), there are many types of questionnaire design depending on how it is to be administered and the amount of contact with respondents. These designs can be divided into self-administered questions and interviewer administered questionnaire. Self-administered questionnaires are usually completed by respondents; such questionnaires could be delivered and returned via email or internet (online questionnaire), or posted to respondents who return them by post after completion (posted or mail questionnaire), or they could be delivered by hand to each respondent and collected latter (a personally administered questionnaire). On the other hand, interviewer-administered questionnaires include a structured interview where the respondents need to answer a predetermined set of questions based on standardised questions. The choice between these types of questionnaires depends on many factors

such as the characteristics of the respondents from whom the researcher wishes to collect data, where the respondents are, the size of sample required for analysis and the required response rate. In addition, the choice depends on the type of questions required to be asked to collect the data, the number of questions needed to be asked to collect data, the time available to complete the data collection and the ease of automating data entry.

The questionnaire, like many other data collection methods, has its own advantages and disadvantages. The main advantage of questionnaire is:

- The ability to reach a relative large respondent population quickly and economically, since it is based on a sample which should represent a large population (Saunders et al, 2007). It is not expensive for both researchers and respondents, there is no need for a highly skilled researcher, and it's based on advanced statistical analysis of the collected standardised allowing easy comparison and understanding (Ibid).

On other hand, questionnaire has some disadvantages as well:

- The capacity to do it badly, in this regard, Oppenheim (1992) contends that it is far harder to produce a good questionnaire than you might think, because of possible non-response bias or missing data
- The process of designing, piloting a questionnaire and analysing the results is time consuming; it is not possible to explore and explain further issues related to the research questions and objectives since the included questions are standardised.

Considering the advantages of the questionnaire, it was decided in this study to use questionnaires to explore the current practices in organisational culture and the relationship between organisational culture and TQM. **The questionnaire was conducted in 50 Iranian organisations and 40 UK organisations.**

## 5.7 Designing the Research Questionnaire

It was decided that the questionnaire should mainly deal with exploring the relationship between organisational culture with TQM, and the implementation of TQM. However, there were a few similar questions asked in the semi-structure interview as well, which is also designed to achieve the research objectives and to validate the answers from the questionnaire. However, designing and formulating the study questionnaire must aim to answer the research questions and objectives. On other hand, wording, language, depth, clarity, order and, above all, the type of questions asked are all important in order to get a good analysis from the study. Thus, the researcher needs to ensure that the criteria of questionnaire construction and pre-testing were met, so a lot of time and effort was devoted towards the design, layout and wording of the questionnaire used in this research. The language of questionnaires is an extremely important aspect of their effectiveness and should reflect the respondent's own language usage. The wording of questionnaires can also help to avoid difficulty, leading questions and double-barrelled questions. Thus, because 50% most of the respondents of this study were Iranian, it was decided that the questionnaire should be distributed to these in the Persian language in order to that they would understand it well.

However, in this study the questions included in the questionnaire were based on searching in previous studies of culture, organisational culture and TQM. It was decided that using previous questionnaires (making some necessary modifications to the original content to be applicable to the Iranian and British context) would ensure the study's validity and reliability and enable comparison of the result of this study with other related studies. Therefore, the questionnaire was derived from different studies (Schen, 1992, Davis, 2000, Hofstede, 2001, Javidan and Dastmalchian, 2003, Denison, 2006).

As mentioned a researcher can use two types of questions for constructing the questionnaire; first is open-ended and, second is close-ended types. Open-ended questions allow each respondent to give a personal response or opinion in his or her own words, while, closed questions allow a respondent to select answers from a numbers of

predetermined alternatives (Saunders et al, 2007). Most of the questions used in making the questionnaire were closed questions. In this study, the questionnaire involves two other different types of questions, first general questions, second it was more specific questions.

### 5.7.1 The content of the Questionnaire

The questionnaire includes many questions since the research aims to achieve several objectives and answer many questions. Therefore, the research questionnaire could be described as comprehensive; it includes everything related to culture, organisational culture and TQM in the organisation. The questionnaire includes the following sections and parts.

- Section A-A: General information and market position

This section is concerned with obtaining a general background of the participants, for example, name of the company, company constitution, how long the company has been established, number of employees, what kind of the product they produce, and market position of the company.

In the first part of questionnaire, the researcher used a special model to find market position of the company. The name of this model is the Puttick model.

#### *Puttick Grid Model:*

According to Davis et al (2000) the concept of the framework, is that firms can broadly be categorised into four types of product/market situation with quiet different quality requirements if they are to be better than their rivals. These are (Davis et al, 2000):

- “Super value good” highly complex products such as aircraft or complex machines that consist of a large number of components.

- “Fashion Goods” simple products by number components because they are short product life cycles in the markets.
- “Commodity Goods” they tend to be simple products and warrant the high capital investment required for the relatively dedicated production system.
- “Value for Money Goods” products are in high value markets of lower uncertainty.

		Product Complexity	
		High	Low
Uncertainty	High	Super Value Goods	Fashion / Jobbing fast response
	Low	Consumer Durables Value	Commodities Mass Production

**Figure 5.3 Product classification**

The researcher is going to use the Puttick Model to divide the companies into these four groups (Super Value Goods, Fashion / Jobbing fast response, Customer Durables Value, and Commodities Mass production), after dividing the companies into four group, the researcher will start his comparative study between Iranian companies and English companies. The result of this questionnaire may show interesting results, because of different cultures of these two countries.

- Section B-A: Culture

This section is concerned with exploring the current practices and situations for Iranian and British culture. This section is trying to understand culture by dividing it in to 3 parts (Hofstede’s model, see chapter 2), these parts are; first: power distance, second: uncertainty avoidance, and third: individualism and masculinity.

- Section B-B: Organisational Culture

This section is concerned with exploring the current practices and situations for organisation culture in Iranian and British companies. Therefore, it consists of several parts, each designed to reveal or explore a particular aspect of organisational culture (Denison's model, see chapter 2). These parts are:

First part: Involvement, this part consists of several parts, each designed to reveal or explore a particular aspect of involvement (Empowerment, team orientation, and capability development)

Second part: Consistency, this part consists of several parts, each designed to reveal or explore a particular aspect of consistency (core value, coordination and integration)

Third part: Adaptability: this part consists of several parts, each designed to reveal or explore a particular aspect of adaptability (Creating change, customer focus, and organisational learning).

Fourth part: Mission, this part consists of several parts, each designed to reveal or explore a particular aspect of mission (Strategic direction and intent, Goal and objective, and vision)

- Section B-C: Total Quality Management (TQM)

This section is concerned with obtaining information related to TQM and its impact on the organisation (See chapters 3 and 4)

- Section B-D: Critical success factors of TQM implementation

This section is concerned with exploring the current practices and situation for critical success factors for TQM implementation in Iran and England. Therefore, it consists of

several parts, each parts designed to explore a particular aspect of TQM implementation. These parts are: (1) management commitment, (2) role of the quality department, (3) training and education, (4) employee involvement, (5) continuous improvement, (6) supplier partnership, and (7) quality policies (see chapter 4).

### 5.7.2 Piloting the Questionnaire

According to Saunders et al. (2007: 308) ‘the purpose of the pilot test is to refine the questionnaire so that respondents will have no problem in answering the questions and there will be no problems in recording the data’. After the completion of the first draft of the questionnaire, a piloting test was conducted in several stages by people in different places.

- The first stage of the pilot test was conducted by researcher’s supervisor who was more concerned about the content of questionnaire
- The second piloting stage was conducted by some of the academics who specialised in TQM and organisational management at Huddersfield University.
- Since the participants were Iranian and British management, the questionnaire was translated to Persian language in order that it would be understand it by Iranian manager easily.
- During the translation process, which took a long time, the researcher translated the questionnaire by himself first, and then the researcher sent his questionnaire to his Iranian advisor in Isfahan University and some of his relatives to check on translation.

### 5.7.3 Validity

The set of variables used in the questionnaires is the product of an in-depth review of the literature. The critical factors were found compatible with those of previous studies. Two very important general criteria to be satisfied in designing the data collection instrument are reliability and validity. Before data collection, problems regarding validity and

reliability of the research instruments used in the study should be addressed. The validity of a measurement technique refers to the extent to which it measures what is intended to be measured. Litwin (1995) and Saraph et al. (1989) suggest four different type of validity generally considered in empirical research:

- (1) Content validity ensures that the measure includes an adequate and representative set of items that represent the concept (Sekaran, 2003). It is considered as an important first step for assessing construct validity (Graver and Mentzer, 1999). The more the scale items represent the domain or universe of the concept being measured, the greater the content validity (Sekaran, 2003). According to Cooper and Schindler (2001) content validity is judgemental and requires knowledge of the theoretical nature of the construct. Therefore, it can be approached through a careful definition of the items to be scaled, the scales used and also through the use of a panel of persons to judge how well the instrument meets the standards. To meet the content validity requirements, an extensive literature review was undertaken to define and clarify the scales and measures used in this research. Many items and scales used in this research were adopted from several other studies that place emphasis on meeting the requirements of validity and reliability. In addition, the questionnaire items were scrutinised and pre-tested by several researchers undertaking doctorates relating to business studies and a panel of academic experts to judge the content validity of the questionnaire.
- (2) Criterion-related validity or external validity measures the degree to which a construct performs as expected relative to other variables identified as meaningful criteria (Hair et al., 2003). Two types of criterion validity can be performed. The first is concurrent validity, which refers to the extent to which a measurement scale relates to other well-validated measures of the same subject (Oppenheim, 1992). It is established when the results obtained from the scale used are consistent with the results of other available scales that are used to describe the same subject (Ibid). The second is predictive validity, which Sekaran, (2003) refers to as ability of measuring instrument to differentiate among individuals with reference to a future criterion.

- (3) Construct validity testifies how well the results obtained from the use of the measures fit the theories around which the test is designed (Sekaran, 2003). Face or construct validity can be attained through pre-testing procedures. This study has carried out a number of pre-trial stages and pilot work was undertaken to ensure enhanced construct validity. Furthermore, Sekaran (2003) indicates that construct validity is assessed through convergent and discriminate validity.
- (4) Convergent validity is established when the scores obtained with two different instruments measuring the same concepts are highly correlated (Sekaran, 2003). In other words, convergent validity assesses the degree to which the measures of each construct are correlated (Hair et al., 1998).

The instrument used to identify culture, organisational culture and quality factors in the study has content validity, since the selection these factors was based on an extensive review of the literature. To ensure content validity, the survey questionnaire has been piloted in Iran and the UK, as mentioned in the section on the pilot study.

#### 5.7.4 Reliability

The reliability of a measure indicates the extent to which it is without bias and hence ensures a consistent measurement across time and across the various items in the instrument (Sekaran, 2003). In other words it is concerned with the precision of measurements such that the same results would be obtained on re-measurement (Jankowicz, 1991). Reliability provides an indication about the consistency of the instrument. It is primarily a matter of stability. However, the most commonly used form of reliability is internal consistency assessed by Cronbach's alpha (Saunders et al., 2005). Thus Cronbach's alpha is adapted in this research to assess the overall reliability of the measurement scale for each defined construct of the study. Alpha provides an estimate of the proportion of the total variance that is not due to error and thus representing the reliability of the scale (Oppenheim, 1992). The recommended minimum acceptable limit of reliability 'alpha' for this measure is 0.70 (Hair et al., 2003). The criterion that is used in the research to examine the reliability of dependent and

independent variables are that if the variables reliability are less than 0.60, that it is considered to be of poor reliability, if the variable reliability is over 0.60, then it is considered as a reliable measure.

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.886	.899	7

**Table 5.4 Reliability coefficient for the dependent variable (TQM implementation in Iran)**

Table 5.4 shows the reliability coefficient for dependent (management commitment, role of quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policy) variables. It shows the reliability coefficient of dependent variables in Iran is 0.886 and it is considered as a reliable measure.

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.833	.697	7

**Table 5.5 Reliability coefficient for the independent variable (National and organisational culture in Iran)**

Table 5.5 shows the reliability coefficient for independent variables, national culture (power distance, uncertainty avoidance, individualism and masculinity) and organisational culture (mission, adaptability, involvement, and consistency) variables. It shows the reliability coefficient of independent variables in Iran is 0.833 and it is considered as a reliable measure.

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.816	.830	7

**Table 5.6 Reliability coefficient for the dependent variable (TQM implementation in the UK)**

Table 5.6 shows the reliability coefficient for dependent (management commitment, role of quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policy) variables. It shows the reliability coefficient of dependent variables in the UK is 0.816 and it is considered as a reliable measure.

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.911	.914	5

**Table 5.7 Reliability coefficient for the independent variable (National culture and organisational culture in the UK)**

Table 5.7 shows the reliability coefficient for independent variables, national culture (power distance, uncertainty avoidance, individualism and masculinity) and organisational culture (mission, adaptability, involvement, and consistency) variables. It shows the reliability coefficient of independent variables in the UK is 0.914 and it is considered as a reliable measure.

The tables 5.5 and 5.7 show the reliability coefficients for dependent and independent variables in Iran and the UK. They show that the reliability coefficient for independent and dependent variables in Iran and the UK were above 0.70 which is acceptable.

## 5.8 Research Hypotheses and Proposed Model

A hypothesis is a formal statement of some unproven supposition that tentatively explains certain facts or phenomena (Hair et al, 2003). The present research builds on previous research findings, which have been discussed in the literature review chapters, in order to meet the objectives of the study and find possible explanations for the investigated relationships among variables.

The first objective of this study is to examine the effects of national culture on organisational culture. The literature sources that were reviewed in chapter two “national culture and organisational culture” led to the suggestion of 1 main research propositions and 4 sub-research proposition (propositions one-a, one-b, one-3, and one-4) at the conclusion to chapter two, that explained the effects of national culture on organisational culture and organisational culture variables. The propositions were further confirmed by the literature reviewed in chapter three and four “TQM and TQM implementation” which concluded that national culture and organisational culture are the previous circumstances of TQM and TQM implementation. Proposition one stated that national culture has a positive effect on organisational culture. According to this proposition the present study builds the first hypothesis.

H1: National culture has a positive effect on organisational culture.

Propositions 1-a, 1-b, 1-c, and 1-d at the conclusion to chapter two stated that national culture a positive effect on mission, adaptability, involvement, and consistency. According to these propositions the present study builds the sub-hypothesis.

H1a: National culture has a positive effect on mission.

H1b: National culture has a positive effect on adaptability.

H1c: National culture has a positive effect on involvement.

H1d: National culture has a positive effect on consistency.

The Second objective of this study is to investigate the effect of organisational culture on TQM implementation. The literature reviewed in chapter three and four “TQM and TQM implementation” led to the suggestion of research proposition two, at the conclusion to chapter four, which stated that organisational culture, has a positive intervening effect on the TQM implementation. According to this proposition the present study builds the second hypothesis.

H2: Organisational culture has a positive effect on the TQM implementation.

The third objective of the present research is to investigate the effect of organisational culture variables (mission, adaptability, involvement, and consistency) on TQM implementation (management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policy). The conclusion to Chapter two and four literature reviews on “organisational culture and TQM implementation” led to the suggestion of research proposition three. Therefore, it is hypothesized that the first organisational culture variable; mission positively affects TQM implementation (management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policy).

H3a: Mission has a positive effect on management commitment

H3b: Mission has a positive effect on role of quality department

H3c: Mission has a positive effect on training and education

H3d: Mission has a positive effect on employee involvement

H3e: Mission has a positive effect on continuous improvement

H3f: Mission has a positive effect on supplier partnership

H3g: Mission has a positive effect on quality policy

It is hypothesized that the second organisational culture variable (adaptability) positively affects TQM implementation (management commitment, role of the quality department,

training and education, employee involvement, continuous improvement, supplier partnership, and quality policy).

H4a: Adaptability has a positive effect on management commitment

H4b: Adaptability has a positive effect on role of quality department

H4c: Adaptability has a positive effect on training and education

H4d: Adaptability has a positive effect on employee involvement

H4e: Adaptability has a positive effect on continuous improvement

H4f: Adaptability has a positive effect on supplier partnership

H4g: Adaptability has a positive effect on quality policy

It is hypothesized that the third organisational culture variable (involvement) positively affects TQM implementation (management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policy).

H5a: Involvement has a positive effect on management commitment

H5b: Involvement has a positive effect on role of quality department

H5c: Involvement has a positive effect on training and education

H5d: Involvement has a positive effect on employee involvement

H5e: Involvement has a positive effect on continuous improvement

H5f: Involvement has a positive effect on supplier partnership

H5g: Involvement has a positive effect on quality policy

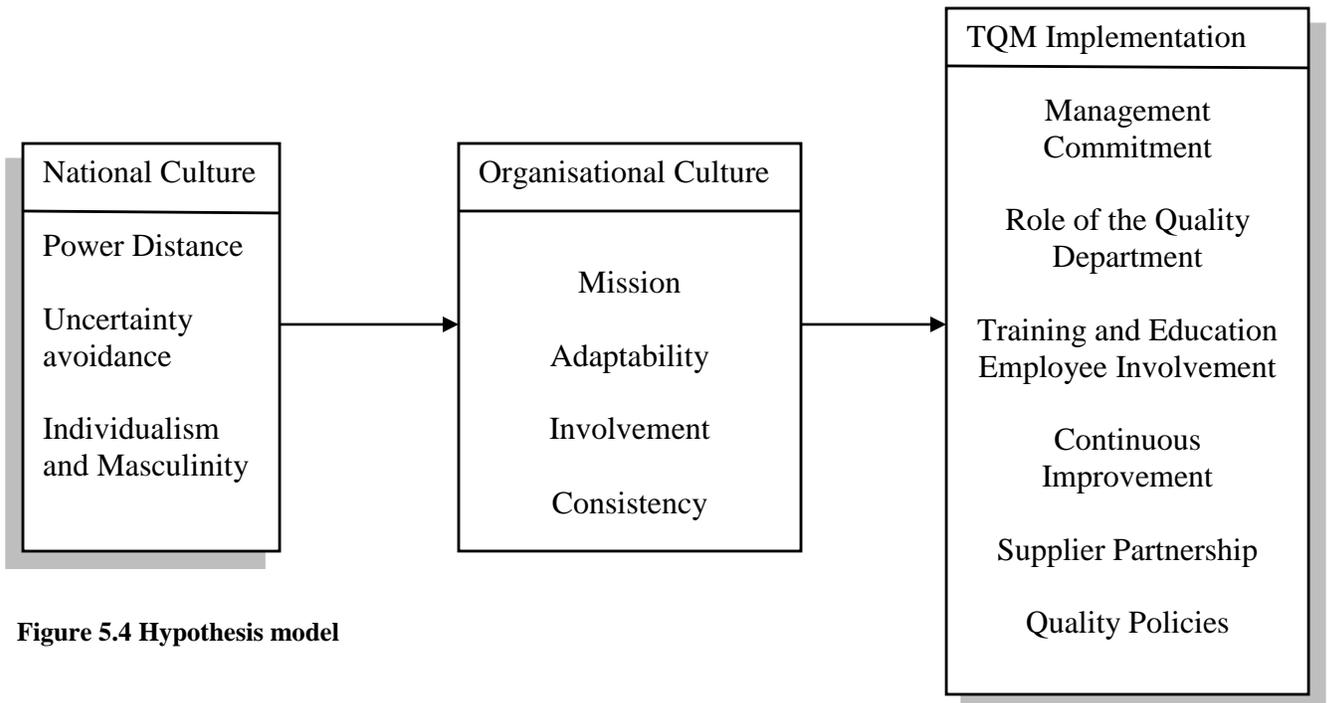
It is hypothesized that the fourth organisational culture variable (consistency) positively affects TQM implementation (management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policy).

H6a: Consistency has a positive effect on management commitment

H4b: Consistency has a positive effect on role of quality department

- H4c: Consistency has a positive effect on training and education
- H4d: Consistency has a positive effect on employee involvement
- H4e: Consistency has a positive effect on continuous improvement
- H4f: Consistency has a positive effect on supplier partnership
- H4g: consistency has a positive effect on quality policy

Building on the above suggested research hypotheses, this study adopted a proposed model that aimed to identify and to investigate the effect of national culture and organisational culture on TQM implementation. The proposed model is illustrated in figure 5.4.



**Figure 5.4 Hypothesis model**

The research hypotheses were developed based on the Hofstede (2001), and Denison (2006) model (Chapter 2, and 3), addressing the three constructs for national culture and 4 for organisational culture, specifically:

- National culture: power distance, uncertainty avoidance, and individualism and masculinity.

- Organisational culture: mission, adaptability, involvement, and consistency.

In this research, the researcher determines which of the TQM implementation construct were affected by organisational culture variables in Iran and the UK. The researcher based on his literature survey and the studies done in Iran and Middle East by other researchers indentified collect TQM implementation constructs.

- TQM implementation: management commitment, role of the quality department, training and education, employee involvement continuous improvement, supplier partnership, and quality policy.

## 5.8 Secondary data sources

The sources of secondary data are different from primary data and include:

- Written materials for example: All electronic sources, books, journals, news papers and etc.
- Area based for example: Iranian and English publications and Journals.
- Published reports
- Professional people

As already explained an extensive related literature review was undertaken in the following area:

- Culture
- Organisational culture
- Total Quality Management (TQM)
- Customer satisfaction
- Strategy
- Product innovation

## 5.9 Summary

Chapter five discussed the main methodological aspect of the thesis. It outlined the research process, research philosophy, strategy and methods. Data access and sampling were discussed. Data analysis was explained with references to quantitative methods relevant for this research.

The design of this research pertains to the strategy or schedule used to collect data, to analyse the findings which will eventually enable the researcher to draw conclusions. Figure 5.1 describes the major research features and actions that were taken during the research.

In deciding on the choice of data collection methods, issues such as the facilities available, time, costs and resources associated with gathering data should be, and were, taken into account (Saunders et al., 2007). A questionnaire was used as the main method of data collection. This was explained and justified in this chapter. A number of semi-structured face-to-face interviews were conducted with top managers to gain more understanding about some hypotheses formulated in the research. Pilot work was done prior to distribution of the final version of the questionnaire as several drafts were made and amended in response to feedback received from referees and panel experts. The questionnaire design and layout, question types and format, contents of the final version of the questionnaire, population and sample, and the procedures for administering the questionnaire were discussed in this chapter. The procedures for conducting interviews were also highlighted. In addition, the issues of reliability and validity have been discussed together with the statistical methods used in this research to address its model and objectives. Finally, the chapter ended with a discussion of the methods of qualitative data analysis.

## **Chapter Six (Interview analysis)**

## 6.1 Introduction

This chapter aims to provide a review of the interview analysis in three major topics:

- National Culture
- Organisational Culture
- TQM Implementation

The interviews were focused at the managers, quality control departments' managers and sales managers in Iran and the UK.

The aim of the interview was to investigate the appreciation of TQM, implementation of TQM, the awareness of TQM, and level of implementation of TQM in different industries in Iran. The analysis of the interviews deals with current problems, and also concerns the level of quality, how organisational culture will influence TQM, and how to improve the implementation and operation of TQM in the different industries in Iran.

The researcher has undertaken various interviews to examine relationships within organisational culture and TQM in the Iranian and UK based organisation. The results verified relationships using data from top managers, mid level managers and employees.

## 6.2 Comparative evaluation of Interview analysis

This section presents the findings from interview analysis with ten Iranian organisations (Setareh Kavir Carpet Co., Khtereh Kavir Carpet Co., Kabir Carpet Co., Rangrazi Yazd Co., Alyaf Yazd Co., Nasaji Yazd Co., Yazd Shahab Co., Pars Medad Co., Yazd Syringe Co., Tak Mackaron Co.) and five the UK organisations (Sellers Engineering Co., ID Williams (N Brown Group), Pneumatic Conveyors Co., Huddersfield Wire., James Holdsworth Co.). The researcher investigated the seven variables which is influenced the successful implementation and operation of TQM in Iran and the UK as shown in the table 6.3 .

Variables	Iran	The UK
Training and Education	50% of Iranian of Iranian organisations	100% of the UK organisations
Involvement	30% of Iranian organisations	85% of the UK organisations
Decision making	80% of Decision in Iranian organisation made at top level of the organisation.	100% of Decisions were made at the head of each department
Customer focus	40% of Iranian organisations were concentrating on their customer.	100% of the UK organisations were concentrating on their customer
Quality policy	50% of Iranian organisations.	90% of the UK organisations.
Productivity	20% of Iranian organisations	80% of the UK organisations
Efficiency	20% of Iranian organisations	70% of the UK organisations
Supplier partnership	10% of Iranian organisations	80% of the UK organisations

**Table 6.3 Comparative results of the interview analysis**

As explained in an earlier chapter, the researcher has adapted the Denison Organisational Culture model. The review of the interviews within Iranian the UK companies indicated

that, successful implementation and operation of TQM was only attained through the constant training and education of employees.

Strong and positive relationships are found between training and education and successful implementation and operation of TQM. The results show that training and education are relatively high in the UK organisations. This helps the UK organisations to implement and operate TQM successfully. As the researcher identified in chapter four the role of the training structure must be top-down, starting with the top team and cascading down the organisation. The golden rule to successful implementation of TQM is to ensure managers train their own people. This is necessary to show management commitment and to ensure managers actually understand the TQM principles and methods. Through training and education, a common language may be achieved throughout the organisation.

Relatively strong negative relationships are found between Iranian organisation and supplier partnerships, the results indicate that Iranian organisations did not give much attention to their suppliers. This is due to limited choice and access to suppliers from around the world. On the other hand, it was found that there was a strong positive link between the UK organisation and supplier partnerships. In most of the Iranian organisations, it was argued that quality policy can be avoided because of cost management and competition in the market. If we look at chapters three and four, we can see the effect of cost reduction in the companies when they implement and operate TQM in their organisation. On the other hand the UK organisations believe that the quality policy in their organisation is one thing which should never be ignored, because of the importance of competition and/or cost reduction. As was mentioned in chapter three, to satisfy the customer a company must identify customer needs in order to design the appropriate product or service

Also the researcher found a strong link between the involvement and decision making of the employee with the implementation and operation of TQM in the UK organisations. This result indicates that the UK organisations involve all the levels of organisation in the

process of implementation and operation of TQM and decision making can be done at low level of the organisation. On the other hand in Iran organisational decision making is conducted only at top level of the organisation.

The results of the interviews indicated that there was only a small improvement in the productivity of employee after the implementation of TQM in Iranian organisations. Managers of Iranian organisations stated that productivity and efficiency of their organisation was not improved as much as they had expected by implementing TQM . On the other hand, the UK managers were mentioning that by implementing and operation TQM in their organisation, their employee productivity and their efficiency were improved.

The review also finds the strong inter-relations between management and employees in the UK organisations which help the UK organisations to understand the philosophical and practical part of TQM.

‘On realisation of personal targets, management can make sure how to benefit from their employees skills and to use is in productive organisation.’ (UK Manager)

British companies can utilise their manpower and manoeuvre in order to achieve their employees’ optimised efficiency.

“Educating and training employees to be multi-skilled is therefore a necessity, an employee will be trained to perform specific or specialise tasks in given areas to ensure productivity when the workload increases in the given area”. (UK Manger)

‘Assessing the capacity plan as part of the half yearly management reviews held to assessment the company’s performance over a given period. Each manager will assess the personal resources available as part of their department or management team.’(UK Manager)

The resources are then fitted into the capability plan of British companies; this ensures that maximum productivity is gained from each department, person and machine (if applicable). The plan is then used to set production schedules, delivery dates ... etc, and to ensure these are met with ease. The review of the interviews in the UK (Sellers Engineering Co., ID Williams (N Brown Group), Pneumatic Conveyors Co., Huddersfield Wire Co., James Holdsworth Co.) considers all areas of the British companies and improvements to resources are made when it is necessary through training and the utilisation of employees. The results of the interviews also show the important relationship between management and departments in relation to training and development.

At some British companies people are initially employed to perform a specific task or job. However a person will be required to undergo specific training which involves assessing and evaluating the skills of a trainee, technical skills, knowledge, and attitude. This will give the company an insight into their background which may be utilised elsewhere if and when required.

In British companies, people are assessed as part of the capacity plan; this involves each departmental foreman manger, carrying out training analysis from both a departmental and an individual view.

“Appraisal are carried on every individual to assess their needs and development over a specification special specified period, if it is felt that training is required to further the persons skills (i.e. multi-skills), then this is solved firstly internally, and then if that is not possible then external training will be found.”(UK Mnagers)

Results of such training are recorded to ensure its success or otherwise. The company will hence evolve over time an effective training policy to ensure its competency.

All training needs and appraisals for both departments and individuals will form the basis of the involvement plan for the company, and they will be reviewed as part of the management meetings. This ensures that all persons involved in the development of a company are involved.

However, in Iranian industry, the lack of empowerment at different levels in organisations is cited as being a barrier to productivity and organisational relationships to the improve quality.

“When we receive an enquiry at a department, the enquiry has to be referred to the head office. This makes the procedure very long within the organisational level. On the other hand the customer is not interested with our internal system. Good quality service for them is getting the answer now” (Iran manager)

“There are too many decisions that could be made by different level of departments but this have to be referred to the head office. This is a waste of management time. Also it has negative impaction on the customer” (Iran, Head of ISO).

Minor evidence was found in the interviews to indicate that the level of employee empowerment had increased over the last 2 years in Iran. Head of ISO in Iran reported that although there had been a slight transfer of decision-making from area offices to local departments, it wasn't significant enough. In other words, there had been some decentralisation but not empowerment.

On the other hand, the initial conceptualisation of customer focus was welcomed by British Managers. Its central philosophy of putting the customer first was seen as representative of traditional values associated with British companies.

“When customer focus was first introduced, it was really re-stating what we did already” (UK Manager).

Sadly, Head of ISO in Iran felt that the philosophy of customer focus had been lost in the programme that was implemented in Iranian companies.

“All that has really happened in some of Iranian companies since have ISO is that “Iranian” quality managers tear off strips of paper and filed progress reports. It is being managed in terms of a series of things to do, rather than assessing the results” (Iran Manager).

As a result, the head of ISO considered that the implementation of the customer focus programme in Iranian companies showed a lack of understanding of what was required to improve the level of quality for external customers. There was a supposedly over emphasis on quality in relation to service quality. There is also a feedback ignorance of quality in relation to the internal processes in Iranian companies. Most of the Iranian Managers conceded that there was plenty of room for improvement in service quality. Presently customers are not satisfied with the level of quality within the service. Iranian quality managers argue that the required quality level is not performed in the quality department; this is due to resource issues and to the behaviour of employees. On the other hand, as head of ISO in Iran said the customer focus programme is focusing on attitude. In order to analyse this part in more details the researcher wishes to draw your attention to the TQM implementation section.

### 6.3 TQM Implementation

The correct way to institute quality into an organisation is to train managers, supervisors and employees to do their task satisfactorily. If employees are to do their task better, they must not only obey the pattern set to them, but they must also have the skills and knowledge to do so. In some organisations, training is for managers only; in other organisations managers believe that they are somehow above training and that training is considered relevant only to the shop floor. Both these attitudes are wrong, training is for everyone (See chapter 4).

## **Training and education in Iranian and British organisations.**

The training structure must be top-down, starting with the top team and flowing down the organisation. The golden rule for successful implementation is to ensure managers train their own employees (see chapter 4). This is necessary to show management commitment and to ensure managers actually understand the TQM principles and methods, and to make sure implementation of TQM is carried out in the correct spirit. Training and educations are important because it gives employees the necessary knowledge to assist quality improvement across the company.

The researcher interviewed companies' managers at different levels, including senior management. According to the findings, the major barriers to employee involvement in TQM programmes in Iranian companies are found in the following areas:

- The motivation for implementing a TQM programme,
- The attitude of the management
- The employees, and team involvement

Head of ISO in Iran believes organisations will improve their performance if they change their management systems to be more participative by involving employees in:

- Problem solving
- Decision making
- Strategy formulation

However, managers who are used to a paternalistic and dictatorial mode of management will have difficulty in delegating responsibility down the line and, therefore, will fail to implement TQM (See chapter 4).

However, according to the head of ISO in Iran when employee involvement is ignored, the TQM programme is going to be fail.

TQM is mainly concerned with continuous improvement at all levels, from high level strategic planning and decision-making, to a detailed execution of work elements in different departments. It leads to continuity improving results, in all fields.

As a result,

- Employees
- Processes
- Technology and machine capabilities

And effectively the whole organisation is improved. However, continuous improvement should deal not only with improving results, but more importantly with improving capabilities to produce end products in the future.

Another important TQM principle involves relationships that are mutually beneficial to

- Supplier
- Organisation
- Customer

The companies need to have detailed information about supplier quality such as drawings, specifications, and other necessary data to meet their customer demands.

“It is also very important to establish a supplier information feedback system, which can be used for release feedback to suppliers about their product performance from end-user.”

(UK Manager)

Such information may be used to further improve supplier performance. A purchasing system includes three key activities:

- Specification of requirements
- Selection of a supplier
- Contract management

Supplier quality audit is an organized evaluation of supplier capabilities to furnish materials of a specific quality and quantity; it is an important basis for initial supplier selection and ongoing supplier quality surveillance (Feigenbaum, 1991). What one firm buys from another is not just material: It buys something more important, namely, engineering and capability (Deming, 1986). These requirements of a supplier must be established long before it produces any material.

The most widespread approach to the management of quality found during the study was quality policy. This affects all aspects of company operation.

“The way that quality department manage:

“Quality is all about numbers, targets and feedback reports. This is not what I think, quality is all about and it is not what the quality department says about quality” (UK Manager)

On the other hand,

“Iranian managers have a rolling check of the quantitative dimensions that make up quality. Quality is about conformance to quality policy. There are lots of rules to follow” (Iran Manager)

The emphasis given to quality policy as a strategy for the management of quality reflects the vision of the quality manager with quality responsibility for companies. However, the belief in quality policy is not supported by Iranian managers. They argue that quality policies encourage flexibility in service delivery and it employees to be creative for quality improvement to within internal processes of the company. In addition, Iranian

managers believe that having a quality policy will affect their companies, but it will increase an overhead expenditure at company.

### **Attitudes of quality managers and employees towards TQM implementation**

The researcher will first consider issues of training and education. The Iranian employees did not have a high level of training. An ISO expatriate who had been hired as a quality manager in one Iranian organisation, described the situation as follows:

“When I arrived, I went to the production line, and it was terrible! Nobody was checking products; no one was looking at waste products in the store. That was bad.” (Iran Manager)

This ISO expatriate was appalled at what he saw on the production line. The basic quality apparel such as checking the production line, management involvement and training and education were completely lacking, and local labourers seemed to work oblivious to any concerns about quality products.

The situation in another company in Iran was almost identical. A quality manager working in Iran complained about the lack of training and education.

“Their training, they don’t care (about it). (They) don’t do what managers tell them to do.” (Iran Manager)

An experienced quality manager who had worked in an Iranian company said:

“Why (do) we need this training? I work in this area, (and) we need no one to come from ISO to check us.” (Iran Manager)

Head of ISO considered it wise to do training at all times, since there were high levels of waste products in some Iranian companies.

It was not only the employees who had poor education. The quality manager in some of the companies, was also not trained. They frequently paid ‘lip service’ to the training organisation, which they were asked to obey by ISO organisation. They were not very serious about following TQM implementation, since they were keener on advancing the work quantity. One of the Heads of ISO gave an example:

“The expert got the TQM or ISO manual and basically turned it into their quality production plan. So everything that we asked them to do, it was already in their ISO manual. Excellent! You think! What happened then, I went in to see their quality manager and started asking questions about their ISO plan – and he had not read it – it was just a document sent to him by head office.” (Iran, Head of ISO)

This was not an isolated incident. As the quality manager left, some of the other quality managers had confessions to make on their commitment towards a quality plan. The Head of ISO spoke about a conversation that he had had with another quality manager.

“We all got the ISO plans that nobody had ever read. Mr J a quality manager in an Iranian company, said, “I’ll be honest with you. When we applied for this job, we hadn’t even looked at that (quality plans). We didn’t consider it.” (Iran, Head of ISO)

The quality managers in some other local organisation thus did not care to ensure that employees had enough knowledge about their task in their specified departments. They never put their labourers under pressure to adhere to the ISO plan.

This is neither a new nor a surprising finding. In another company the quality manager claimed that the quality department often had a quality plan on paper but that most employees were not aware of its existence.

They listed quality problems prevalent in most production lines in Iranian companies. They also describe the lack of quality policy towards the labourers and the workers. They observe that many workers take chances, and do not observe quality policy.

The quality managers in Iran also exhibited a poor attitude towards quality policy. Quality policy was not an important part of the production problem for Iranian companies, as a British quality manager pointed out

“Basically the English managers always think about quality first and then quality improvement.” (The UK Manger)

As these views indicate, the Iranian quality managers and labourers on the TQM implementation exhibited neither good quality policy nor a high level of training and education. The head of ISO expressed a lack of education related quality issues, while the quality manager did not realize the importance of TQM implementation.

There were several reasons why the Iranian managers were not interested in TQM implementation.

- Foremost amongst these was the fact that the cost of applying TQM implementation was very high,
- Amount of money available for quality and TQM implementation was quite low.
- Further, there was no shortage of employees who were willing to work on TQM implementation.

Over several years this led the Iranian managers to develop a mindset of not being concerned about TQM implementation. Even though some Iranian customers occasionally inserted contract specifications requesting high quality products cheaply, because of competition with Chinese products they rarely enforced them. Therefore managers had become accustomed to ignoring the TQM implementation. An experienced ISO manager, who had worked as a quality manager in several Iranian companies for the last fifteen years, noted with surprise the part of the TQM implementation when he and his team actually attempted to ensure that the company maintained the TQM implementation.

He said:

“When you wish to inspect the companies or the suppliers, even if they reluctantly read all the fine print (quality plan), they have probably seen it before but they have learnt to ignore it, because it is never enforced, while here we do enforce it a lot more. And these managers once ask to rely, they say, “Of course, of course,” (to our quality plans) but when it comes to reality and they must to perform they are not able to full field the requiems.” (Iran Manager)

It was not only the managers who were to blame. The quality managers themselves were not very keen to carry out orders. They did not seem to realize that there was a chance to increase the quality of products, and that this would increase their market share.

Furthermore, as this manager understood, TQM implementation sometimes reduced employees’ productivity, because employees had to fill in ISO forms and papers, as part of TQM implementation, reducing their daily productivity. Basically managers were not very happy about this.

In contrast, British managers and quality managers were very concerned about TQM implementation. The British managers were very keen on getting their companies to adopt TQM implementation.

The British quality managers were contractually required to have a person on their team in charge of quality improvement. Instead of making this a ‘bonus’ position with no real responsibilities, the person took this position very seriously. Their quality managers were tasked with ensuring that there were no mistakes made on the production line to ensure quality, and were given the backing and the authority to do so. One of the British quality managers spoke about the commitment of British companies towards quality policies:

“They (employees) know the importance of quality policies and without their co-operation I can’t implement any of this (TQM implementation). Their cooperation is always there. Quality policies and TQM implementation and so on has to go hand in hand.” (UK)

The British quality managers received the full support of the management team to perform their tasks effectively and to ensure that there were no mistakes made on production and

quality of products. The quality managers placed a lot of emphasis on good TQM implementation practices in companies, even if it interfered with the progress of the work.

The Head of Iranian ISO organisation, who had earlier made deprecating statements on the quality policy of the Iranian companies, commented on the European (The UK) quality policy:

“European and British companies have taken quality policies pretty seriously.” (Iran Manager)

By comparing Iranian companies with the British, he felt that the TQM implementation at British companies was far better than that of Iranian companies and that he truly believed in the importance of TQM implementation especially in training and education. An Iranian manager who was trained in the UK spoke about the British attitude towards TQM:

“Especially people in the UK, they are famous for quality and TQM. I’ve never before seen quality regulations as (strict as) in UK.” (Iran Manager)

In the UK, quality is often considered by management as a priority item in discussion. Most of the British managers considered quality as a very important issue. British managers are concerned for the well being of their workers and ensure that the quality manager and employees were trained to implement TQM procedures at their companies.

The researcher was not surprised at the TQM requirements in the UK. Quality managers and employees were used to following TQM procedures on their production and exhibited a very high level of quality to their customers

In terms of quality, even though the Iranian managers wanted to make sure that the finishes on their products were smooth and that the quality of the products was high, Iranian employees did not pay quite as much attention to the overall quality of the work. For example, Head of ISO in Iran spoke about the poor quality work of Iranian employees as compared to the British:

“Iran is different. British follow the quality standards in production. But the Iranian employees are something different – they don’t think about quality” (Iran Manager)

The Iranian quality managers tended to agree with these views and admitted that customers expect high quality standards. A UK quality manager spoke about the quality of work that their general manager expected:

“The British managers’ requirement is high. (It) is stricter for some details. For example for the production design – their production design considers more detail.” (Uk Manager)

Iranian production designs were done too quickly to get the required quality necessary. Iranian products also often failed in the export field, because customers expected high quality products at a cheap price. An Iranian manager who worked in export and import in the international market declared:

“The international customers know what they want. They want very high quality products and at a very affordable price, we cannot just follow the textbook (TQM implementation). Customers really don’t know what our difficulties are?” (Iran Manager)

From this manager’s perspective, the level of quality that the customer expected was incredibly high but they were also looking for competitive price, almost impossible to achieve for Iranian organisations (the reason being high inflation and high employee cost).

Even in Iran, the competition between domestic producers is high. Partly, because of low level of work quality in Iran due to the workers’ backgrounds (cultural issue) as well as the requirements or norms of different industries in Iran. Just as it was the case for quality norms that were neither espoused by managers nor enforced on customers. Iranian producers were used to ‘getting away’ with making products that were of a lower quality when compared to those of international companies, because they knew they were not being questioned by anyone. Furthermore, labourers who perform the work originally came from a very poor background and had received very little training. Therefore it was difficult for them to perform good quality work.

The UK manager noted:

“In (the) UK, the majority of workers own their own houses and they take some pride in this. Their standard of living is reasonably high.” (The UK manager)

In Iran is different, An Iranian manager said:

“Look at the workers working here. Some of them they have big family and are living in small houses. They don't have enough salary to manage their life; some of them work during the day here, and during the night somewhere else. And then we try and say, “We want quality”. They cannot digest what quality means! They have had no training on how to perform their tasks.” (Iran Manager)

The economic and social background that labourers came from made it difficult for them to conceptualize or understand what a high quality job task mean and so they were unable to perform their work satisfactorily.

Another reason for reduced quality in the Iranian companies was the difference in the work ethic of the supervisor. Many of the supervisors only performed exactly the work assigned to them and were not concerned about the overall quality of the product. Furthermore the head of ISO felt that the Iranian workers were not very productive during the working hours.

“Iranian workers are very lazy. They take a lot of break, drinking tea and chatting about, this on its own influences productivity.” (Iran Manager)

The researcher can personally confirm that the Iranian reduced daily productivity is due to multiple tea breaks during the working day and time spent in idle conversation over politics and the difficulties of life, and some other meaningless chat.

However, many of the experienced managers in Iran did not quickly condemn the workers, they were aware of the economic circumstances; especially American sanctions in Iran had led to lower quality. They also understood that they were imposing a much higher standard of quality on their products and therefore tried to work within the system to improve quality standards.

Another important issue is that, Iranian managers are facing a lack of suppliers. In Iran suppliers are limited because of political issues or economic sanctions. Most essential raw material is handled by the Government in Iran (imported or locally available). Those locally available are distributed by Governmental affiliated organisation nationwide. One has to have a good connection with this distributing organisation to receive reasonably good quality raw material otherwise one will receive what is left over (poor quality).

One of the Iranian managers said,

“In the UK, British companies have so many choices of suppliers, can choose or change supplier easily if are not happy with one. Here it is different, sometimes Iranian companies cannot import their essential row material directly, as of the Government policy to protect the domestic producer, sometimes you have to work only with one supplier. These so called suppliers can charge you whatever it takes. Since these suppliers are certifying by the Government, one cannot change them to another supplier (if the quality of the material supplied was not quality wise satisfactorily), simply, because these are the only certify by the Government. On the other hand, retailer or wholesalers import end products from China (which are very cheap). So there is a fight and struggle between the domestic producers of products and importers (Price + Quality).” (Iran Manager)

UK quality manager was able to perform the task of implementing TQM because of the support and cooperation of the top management. In the UK quality managers employ several strategies to attempt to improve the quality in British organisation.

**The researcher will now describe these strategies and analyze their effectiveness.**

Customer satisfaction and winning of the international market has forced British companies to have two main strategies to improve quality – a strategy of convincing and educating the workers (an education strategy) and a strategy of forcing them into compliance (an enforcement strategy) to produce higher quality end products.

As the UK quality manager said:

“Education is important. I will first explain why (a certain quality procedure has to be adopted). Then if this fails, you start enforcement (Penalties, fines, and so on) to improve their quality” (UK manager)

The researcher will now elaborate on each of these two strategies.

Educating the local workforce to be more quality conscious:

British quality managers employed numerous methods to convince and educate labourers to work on high quality levels. They held daily ‘tool box talks’ and lectured workers on quality issues relevant to the tasks that they were going to perform on that particular day. They organised periodical meetings to talk about quality issues. Workers were shown drawings and pictures of what to do and what not to do and in many cases performed trials or ‘mock-ups’ that were used to point out quality errors so that they could employ corrective measures when they performed the actual work. Another British quality manager has described some of the educational techniques used in his department to improve the quality of the product

“So that’s the reason why I say we have organised weekly quality meetings. Then we see if something is wrong. Then we can argue and discuss better way to establish the standards to be followed. So based on this kind of system, we can avoid repeating the same mistake. We will go through our system to control our quality. We don’t want to repeat our (mistake) again and again.” (UK Manager)

The UK quality managers felt that by constantly educating the workers, through training, through mock trials and by providing them with feedback, the workers would learn from their mistakes and the quality of the work would improve. Another British quality manager described a similar way, he used in his department:

We can arrange demonstrations. For example we do the practical work before we do the permanent work. We need to arrange demonstration, demonstration to let the workers practice and then we start the permanent work. Let the workers practice on the job and then record any defects or improvements, and then we implement them in the actual permanent work.

This UK quality manager also felt that repeated practice and diagnosis of errors helped workers learn how to improve product quality. Apart from merely telling the workers ‘what’ to do, the British quality managers also attempted to explain to the workers ‘why’ quality was important and tried to get the workers to take pride in their work and therefore pay more attention to quality.

The British quality managers were quite experienced and understood the need to tailor their arguments to different environments. In one company the researcher met a British quality manager who was new in the organisation but who described his method of providing educational training:

“A lot of this is done by training. I do a lot of courses. I spent the first few weeks just going around and taking a lot of photographs and video. So what I had to do was to gather a series of photos here.” (UK manager)

This manager spent a lot of time documenting errors and taking photographs of the production so that he could then use these as effective examples to motivate the workers. Thus the British managers felt that they would be able to improve the quality standards on the project through the use of various methods of educating the workers.

However, as the researcher shall now briefly describe, although this strategy had good results in the UK, it was not so successful in Iran.

Much to the disappointment of the Iranian quality managers, their attempts to educate the workforce did not yield the desired results as the workers seldom changed their quality practices or improved the quality of their work. An ISO quality manager in Iran, who was part of TQM implementation in one Iranian company, could not understand why the workers had difficulties following relatively simple quality guidelines. He said

“I was thinking when I got an introduction here on quality, I was thinking, “It might be very easy to follow all these rules”, but our quality inspectors are reporting daily from the production line saying, “employees are not following our regulations.” So as this happened we stopped the production to demonstrate quality techniques. We stopped it because people were not following instructions.” (Iran Manager)

Several ISO quality managers on the TQM implementation in Iran also felt that educating the workers did not lead to a discernible improvement in quality. This finding is consistent with Wilson et al.'s findings from a study of TQM implementation in the US, that tool-box talks and other educational sessions were very inadequate in improving quality levels in these companies (Wilson et al., 2000). Although the TQM implementation in Wilson et al.'s research study was not global in nature, they also involved interactions between managers and workers who did not pay much attention to quality policies. Their findings are therefore relevant to the problem that the researcher uncovered in his field in Iran.

As a result, ISO organisations in Iran sometimes start another strategy – that forces the quality managers and labourers to follow higher quality standards.

When the strategy of education did not yield the desired results, the Head of ISO organisation in Iran encouraged the managers and quality managers to employ quality work practices and pay more attention to work quality. One of the primary methods of coercion was to impose a monetary penalty for poor quality work.

The same strategy was adopted by several other companies in Iran. A production manager from one of the manufacturing firms in Iran spoke about how his organization tried to focus on improved quality standards on their production:

“Every morning (we have) a meeting with the workers and continuously persuade them. If (they) do not follow these quality regulations you will be penalized. Iranians workers due to low income like the money and they do not wish the money to be taken from them. So we can control by deducting the money from their salary as a penalty. Yes, so it takes about 3 or 4 months but finally they follow our instructions.” (Iran Manager)

This method of coercion worked quite well as most of the workers in Iran were motivated by money. The fact that they were paid very little also implied that they were highly unwilling to lose their income through fines and as a result quickly learnt to adopt the quality work practices espoused by the quality manager.

A related approach that another quality manager used was to stop the work or to order workers to repeat a part of the work, if an appropriate quality measure was not followed. This

was an indirect form of imposing monetary penalties since rework or work stoppages resulted in production delays that often forced the company to pay damages to the customers if the work was not completed on time. A work stoppage notice therefore pushed the local workers to change their approach to quality policy.

The Head of ISO described the situation as follows:

“So at various stages we stopped the work! “This is not acceptable – so stop. You’ll go no further until you put this right” (we said). And they received a written stop work notice. That had an effect. We don’t like stopping the work, but the risk there was phenomenal!” (Iran, Head of ISO)

The Head of ISO understood that stopping the work had an adverse effect on the timely completion of the products. However, since they also placed high importance on the quality policy, they felt justified in stopping the work occasionally if it led to an improvement in quality policy.

In contrast to the strategy and education, the strategy of enforcement was quite successful in bringing about a change in quality work implantation in Iran. As the above incidents have indicated, enforcement of monetary penalties often coerced the workers into adopting TQM implementation. Even though there was no guarantee that they would not revert back to their old quality policy, their work attitudes towards TQM implementation on their current situation displayed a marked improvement.

As an Iranian manager working for an international company in Iran said:

“So you identify what it is that’s going to make them sit up and take notice. And in Iran there is not a great deal that will make them sit up and take (notice). If the supervisor insists on it and, the supervisor makes it happen, then the workers will follow in line – because they have to. Since I first came to this company – you see, my views have changed – one of my colleagues said, “We should fine the supervisor.” I was totally opposed to ask the supervisor to impose fines on the workers. That’s for the legal authorities to do. But there is no legal

authority to do it. So I now think that we should fine the supervisor – because nobody else is going to do this. It's the only way that we're going to grab his attention.” (Iran Manager)

The Head of ISO in this instance referred to supervisors employed directly by the quality managers to supervise quality works. Like most of the managers, they initially felt that logical persuasion and education would change the workers' mentality. They even opposed the use of coercive measures. However, after having failed in his attempt to educate workers on quality policy issues he concluded that the use of force (in the form of fines etc) was the only way to improve quality production. As a result, there was an overall increase in quality standards in Iran.

Based on their backgrounds, the Head of ISO had highly institutionalized views about the TQM implementation in Iranian organisation. They were committed to observing high standards of quality. On the other hand, the quality managers and workers had been influenced by a different set of forces over the course of their careers and were in the habit of paying lesser attention to TQM implementation.

**These two differing viewpoints come up.**

The Head of ISO attempted to change the mindsets of the managers and workers. However, as many scholars in the field of institutional theory have observed, the process of institutional change is not an instantaneous one. Changing the 'mindset' or bringing forward institutional change is often a contentious process that takes place over a long time span – typically over decades (e.g. Townley 2002). Furthermore, Head of ISO had an aggressive timeframe in mind and wished to influence a change as quickly as possible, so that they could advance the works seamlessly.

In her study of the introduction of American work practices into Europe, Djelic (1998) deals with a somewhat related situation. She describes an attempt made in post-World War II Europe, to change the mindsets of the European workers and the institutions underlying commerce and production in Europe to a set of institutions that were more in tune with those prevalent in the US. Based on Powell and DiMaggio's work (Powell and DiMaggio 1983), Djelic (1998) describes three strategies –coercive, normative and mimetic – that American sponsors and local champions undertook to influence this change. The American sponsors in

this case understood that even though coercive strategies led to the adoption of American practices in the short term, this shift was likely to only be temporary. In the long term, they felt that if the local workers did not fully embrace the new sets of rules, norms and values, the American model would not be adopted. They therefore used more time intensive normative and mimetic strategies and tried to inculcate American practices into the education system, attempted to persuade and convince political leaders and so on. Over a period of decades, they succeeded in using these tactics to bring about a change in the European mindset.

Although the quality managers and workers were successfully coerced into adopting TQM implementation and to pay more attention to work quality, the magnitude of improvement was not as much as the Head of ISO had hoped for. The Head of ISO understood that it was difficult for workers to change their view completely overnight and were prepared to accept less than perfect work, as long as there was a marked improvement in quality standards.

A manager in Iran remarked:

“They (the Iranian employees) don’t perform 100%, but at least they perform 60-70% quality work. ‘So-so’ work. So I accept so-so work.” (Iran, Head of ISO)

Although this manager forced workers to be quality compliant, he had developed a level of tolerance wherein he accepted work that had some relatively minor defects. Another manager in Iran also did not feel the need to enforce 100% compliance towards all the quality criteria. In his view, there were some criteria and policies that had to be strictly observed, while other criteria could be relaxed.

## 6.4 Summary

The following findings were confirmed by interview analysis:

The summarising the above mentions shows that the impact of management commitment, continuous improvement on implementation and operation of TQM in Iran.

- Training and education have significant effect on implementation and operation of TQM in the UK and Iran.
- There is no significant relationship between implementation of TQM and supplier partnership in Iran
- There is a significant relationship between implementation of TQM and supplier partnership in the UK
- There is a high level of significant relationship between involvement and decision making and TQM implementation in the UK.
- There is low level significant effect between involvement and decision making and TQM implementation in Iran
- There is a significant effect on productivity and efficiency by implementing TQM in the UK
- There is small significant effect on productivity and efficiency by implementing and operating of TQM in Iranian organisation.

Iranian managers took a practical approach towards TQM implementation and categorized issues as being serious or non-serious. Although they used force to ensure that the serious issues were addressed, they felt that the non-serious issues were less important and could be dealt with less harshly. In the final analysis, the levels of TQM implementation did improve, but not to the levels that the Head of ISO had wished for. This concludes the discussion on the differences in perception of TQM implementation in Iran and the UK derived from the interviews.

The most significant causes of failure in TQM implementation and operation in Iran were the following items:

- Lack of management commitment on quality
- Lack of awareness on the benefits of TQM implementation and operation in Iranian organisations.
- Insufficient knowledge of TQM and measuring techniques that are used to measure effectiveness of TQM implementation.
- Lack of clarity in the guideline, implementation plan and implementation method.
- Lack of understanding about the positive result of continues improvement.
- Ignoring the importance of the customer.
- Lack of understand implication of national culture, organisational culture on successful implementation and operation of TQM.

The following two chapters, i.e.7 and 8 will present the questionnaire results related to the effect of organisational culture on TQM implementation in the UK and Iran.

## **Chapter Seven (Iranian Questionnaire Analysis)**

## 7.1 Introduction

This chapter presents the evidence collected from managers from Iranian companies. First demographic information on the data set is provided. Then, descriptive statistics on the mean of each construct will be explained. The findings have been expressed in both narrative and graphic forms, with references to specific questions when necessary. Later reliability information on the item is discussed and finally the correlation matrix is explained.

## 7.2 Demographic information

In the sample 100% of the participants were male. This gender homogeneity was not unusual since most managers and consultants at that level in Iran are male (Dalvie, 2005).

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid limited company	46	92.0	92.0	92.0
public limited company	4	8.0	8.0	100.0
Total	50	100.0	100.0	

**Table 7.1 how is your company constituted?**

92% respondents have been in the Limited company. Limited company is a corporation whose liability is limited by law.

8% of respondents have been in Public limited companies, public limited company can be publicly traded on a stock exchange.

A shareholder in a limited company, in the event of its becoming insolvent would be liable to contribute the amount remaining unpaid on the shares. 'Paid' here relates to the amount paid to the company for the shares on first issue, and not to be confused with amounts paid by one shareholder to another to transfer ownership of shares between them. A shareholder is thus afforded limited liability.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Super value good	1	2.0	2.0	2.0
	Consumer Durables	18	36.0	36.0	38.0
	Commodities Mass Production	31	62.0	62.0	100.0
	Total	50	100.0	100.0	

**Table 7.2 Please roughly position your company in one of the sectors?**

By using Puttick Grid Model, the concept of the framework, is that firms can broadly be categorised into four types of product/market situation with quiet different quality and requirements. 62% of the companies have been in commodities mass production, 36% of them have been consumer durables and only 2% of respondents from super value good as figure 7.2 shows.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5	18	36.0	36.0	36.0
	6-10	12	24.0	24.0	60.0
	11-15	5	10.0	10.0	70.0
	16-20	3	6.0	6.0	76.0
	more than 20	12	24.0	24.0	100.0
	Total	50	100.0	100.0	

**Table 7.3 How long has your company been trading?**

Table 7.3 shows 18 of companies have been working for 1 to 5 years, 12 companies have been working for 6 to 10 years, 5 companies have been working for 11-15 years, 3 companies have been working for 16-20 years, and 12 companies have been working for more than 20 years.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-500	43	86.0	86.0	86.0
	501-2000	7	14.0	14.0	100.0
	Total	50	100.0	100.0	

**Table 7.4 How many employee do you have?**

Table 7.4 shows amount of employees in the companies, its clear 86% of companies have got less than 500 employees, and only 14% of them have got more than 501 employees.

### 7.3 Descriptive statistics

The mean and standard deviations for each independent variable have been calculated. The results are provided below. To calculate the mean for each variable (construct), first the total values for all questions for a given construct were calculated. Then, the mean was calculated by dividing the total values by the number of questions.

Independent variables are: management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policies.

**Item Statistics**

	Mean	Std. Deviation
Management Commitment	9.0200	2.77371
Role Of The Quality Dep	8.7600	3.45561
Training Education	8.2000	2.89264
Employee Involvement	6.9000	1.58114
Continuous Improvement	7.1600	2.21645
Supplier Partnership	10.0200	2.25416
Quality Policies	9.5800	2.66565

**Table 7.5 Item statistic (Independent Variables)**

Dependent variables are: consistency, adaptability, mission, and involvement (Table 7.6).

**Item Statistics**

	Mean	Std. Deviation
CONSISTENCY	23.0800	5.23271
ADAPTABILITY	34.9800	7.10990
MISSION	27.5200	7.78339
INVOLVEMENT	36.6000	9.20958

**Table 7.6 Item statistic (Dependent Variables)**

## 7.4 Hypothesis testing

SPSS is used for hypothesis testing and parametric data analysis in this section. Data normality is assessed through examining the values of skewness and kurtosis for each variable in the study, as shown in Table 7.7.

	MANAGEMENT	ROLE OF THE	TRAINING	EMPLOY_A	CONTINUOUS	SUPPLIER	QUALITY
Grand Total							
Kurtosis							
	-.69	-1.21	-.78	.27	.26	-1.11	-1.43
Skewness							
	.21	-.09	-.12	-.70	-.87	-.04	-.35

**Table 7.7 Examining the values of skewness and Kurtosis (Independent Variables)**

Skewness values falling outside the range of -1 to +1 indicate a substantially skewed or abnormal distribution, and kurtosis values falling outside the range of -3 to +3 also indicate a substantially peaked or abnormal distribution (Hair et al 1998, Dancey & Reidy 2002, Hair et al 2003). The values of skewness and kurtosis for the study indicate that the data for all the variables are normally distributed.

Central limit theorem states that in random sampling from an arbitrary population when the sample size exceeds 30 observations, the distribution of the sample mean is approximately Normal (Cooper & Emory 1995, Tamhane & Dunlop 2000, Mann 2001, Johnson & Bhattacharyya 2001, Tabachnick & Fidell 2001, Berenson et al 2002, Dancey & Reidy 2002, Sekaran 2003). In large samples, the impact of departure from zero kurtosis also diminishes. For example, underestimates of variance associated with positive kurtosis (distributions with short, thick tails) disappear with samples of 100 or more cases; with negative kurtosis, underestimation of variance disappears with samples of 200 or more (Waternaux, 1976).

## 7.5 Correlation between variables

The next step in factor analysis is to establish whether the set of variables is a suitable selection by showing that there is some systematic covariation among the variables under consideration (Hair et al., 1998). In factor analysis, some degree of multicollinearity is desirable, because the objective is to identify interrelated sets of variables. According to Hair et al. (1998), if visual inspection of the correlation matrix reveals a substantial number of correlations greater than 0.30, then factor analysis is appropriate. The correlations among variables can be analysed by computing the partial correlations among variables. If “true” factors exist in the data, the values of partial correlation should be small. In the multicollinearity, a value of 0.70 or more is generally considered sufficiently high, while a value below 0.50 is unsatisfactory and one over 0.90 is outstanding (Hair et al. 1998).

The multivariate correlation matrix of this study indicates no multicollinearity ( $R = 0.80$  or higher) among study variables (Hair et al 1998, Tabachnick & Fidell 2001), as Table 7.8 indicates.

The direction of relationships among variables is another issue that should be considered in analysing the correlations between variables. A positive correlation indicates that the direction of the relationship is positive (if one increases, the other one increases). A negative correlation indicates an inverse relationship between variables (if one increases the other one decrease).

	Management Commitment	Role Of The Quality Dep	Training Education	Employee Involvement	Continuous Improvement	Supplier Partnership	Quality Policies
Management Commitment	1	.388(*)	.381(*)	.287	.413(*)	.401(*)	.493(*)
		.031	.016	.117	.021	.025	.015
		50	50	50	50	50	50
Role Of The Quality Dep		1	.552(**)	.320(*)	.362(*)	<b>.178</b>	.844(**)
			.001	.023	.017	<b>.339</b>	.000
			50	50	50	50	50
Training Education			1	<b>.398(*)</b>	.443(*)	<b>.141</b>	.453(*)
				<b>.027</b>	.011	<b>.362</b>	.017
				<b>50</b>	50	<b>50</b>	50
Employee Involvement				1	.292	.340	.379(*)
					.111	.062	.039
					50	50	50
Continuous Improvement					1	.690(**)	.396(*)
						.000	.027
						50	50
Supplier Partnership						1	.654(**)
							.000
							50
Quality Policies							1

\*\* Correlation is significant at the 0.01 level (2-tailed).

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

Table 7.8 Correlation

Multi-collinearity is assessed through individual tolerance and VIF values for each regression analysis conducted later. Tolerance and VIF measures indicate the degree to which each independent variable is explained by the other independent variables. Tolerance is the amount of variability of the selected independent variable not explained by the other independent variables. Thus very small tolerance values (and thus large VIF values because  $VIF = 1 / \text{tolerance}$ ) denote high collinearity. A common cut-off threshold is a tolerance value of 0.10, which corresponds to a VIF value above 10 (Hair et al 1998).

Based on the correlation matrix, the highest correlation between variable is between role of quality department and quality policies ( $r=0.844$ ). This was expected since usage of quality department is depends upon the availability of quality policies. The second highest correlation is between continuous improvement supplier partnership ( $r=0.690$ ). This support the fact employee involvement is the most important factor for achieving higher continues improvement. And finally, the third highest correlation is between supplier partnership and quality policy ( $r=0.690$ ).

The result of correlation can be used to support the hypotheses developed. The correlation matrix indicates that there is a significant correlation between quality department and quality policy usage ( $r=0.844$ ,  $p=0.000$ ).

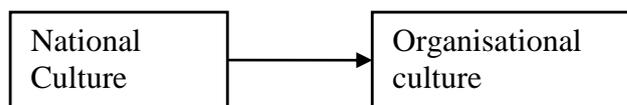
## 7.6 Regression Analysis (Iranian Organisational culture)

Regression analysis was divided into two different parts; first part was to find effect of national culture on organisational culture variable, in order to find this relationship, researcher made a series of regression analyses. Second part was to find effect of organisational culture on TQM implementation. In order to determine the effect of organisational culture, involvement (empowerment, team orientation, capability development), consistency (core value, coordination and integration), adaptability (creating change, customer focus, and organisational learning), mission (strategic direction, goal objective, and vision) on TQM implementation (management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policies) results, a series of regression analyses were performed. The regression analysis determines which variables (independent variables) explain variability in the outcome (dependent variables), how much variability in the dependent variables is explained by the independent variables, and which variables are significant (over other variables) in explaining the variability of the dependent variable.

In multiple regression analysis the “Enter” regression method is used because simultaneous effects of all independent variables are required. In the standard, or simultaneous cause effect analysis, all independent variables enter into the regression equation at once; each one is assessed as if it had entered the regression after all other independent variables had entered. Each independent variable is evaluated in terms of what it adds to prediction of the dependent variable that is different from the predictability afforded by all the other independent variables (Tabachnick & Fidell 2001). Standardized beta coefficients are used in regression equations because they eliminate the problem of dealing with different units of measurement, thus reflecting the relative impact on the dependent variable of a change in one standard deviation in either variable. Therefore, standardized beta coefficients determine which variable has the strongest impact (Berenson et al 2002, Dancey & Reidy 2002). However, beta coefficients are used as a guide to the relative importance of the independent variables.

included in the equation (not in an absolute sense), and only over the range of values for which sample data actually exists (Hair et al 1998). Adjusted  $R^2$  index, rather than  $R^2$ , is used to determine the amount of explained variance of the dependent variable because it takes into account sample size and the number of independent variables (Tabachnick & Fidell 2001). In addition, adjusted  $R^2$  is more realistic to generalise to the population (Dancey & Reidy 2002).

## 7.7 cultural approach and Iranian organisation



**Figure 7.1 Relationship between national culture and organisational culture**

First, national culture is one of factors has influence on organisational culture; in this part the researcher examines the contribution of national culture on Iranian organisational culture value.

The researcher used organisational culture as dependent variables and national culture as independent variables.

The result from table 7.9 shows  $R^2$  for the regression model. It indicates that, 31.5% of variability of organisational culture explained by national culture. .

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.574(a)	.329	.315	22.15899

a Predictors: (Constant), National Culture

**Table 7.9 R-square (national culture)**

That is an acceptable level for  $R^2$  for explaining variability of national culture. Analysis of variance (ANOVA) indicates that the model is significant at  $\alpha=0.05$  (Table 7.9).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11564.386	1	11564.386	23.552	.000(a)
	Residual	23568.994	48	491.021		
	Total	35133.380	49			

a Predictors: (Constant), National Culture

b Dependent Variable: Organisational Culture

**Table 7.10 ANOVA (b)**

Statistical test shows the there is significant effect from national culture to organisational culture. As table 7.10 shows the result of significant is 0.000 which is lower than 0.05 (maximum amount for significant effect) that means national culture has significant affect on organisational culture (figure 7.1).

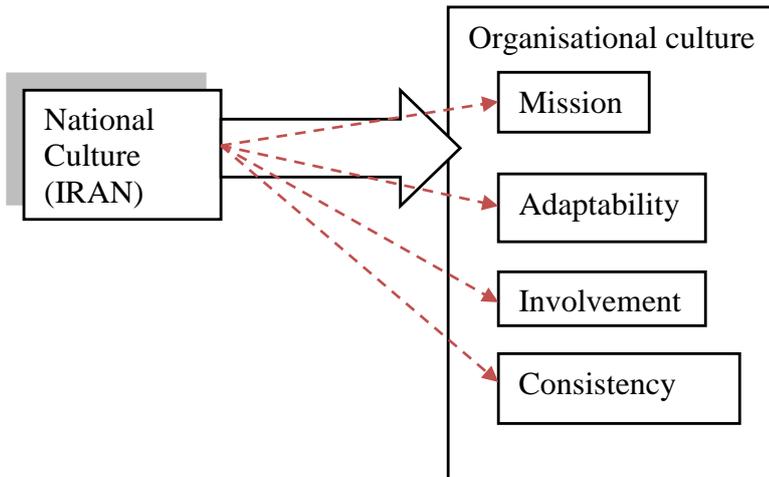
Model		Unstandardized Coefficients		Standardized Coefficients		Sig.	Collinearity Statistics	
		B	Std. Error	Beta	t		Tolerance	VIF
1	(Constant)	35.472	18.140		1.956	.056		
	Culture	2.061	.425	.574	4.853	.000	1.000	1.000

a Dependent Variable: Organisational Culture

**Table 7.11 Coefficients (a)**

Beta value in the table 7.11 is 0.574. Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much (57.4%) independent variables affect dependent variable. Table 7.11 indicates the Variance Inflation Factor (VIF) is less than 10, indicating that multi-collinearity is not a concern in the model.

7.9 National culture has significant effect on organisational culture (mission, adaptability, involvement and consistency).



**Figure 7.2 Effect of national culture on organisational culture (Mission, Adaptability, Involvement, and Consistency)**

As figure 7.2 shows organisational culture (Mission, adaptability, involvement and consistency) as the dependent variables and national culture as independent variables have been consider.

The results from tables 7.12, 7.13, 7.14, and 7.15 show  $R^2$  for the regression model. It indicates that 39%, 35%, 15% and 22% of variability of involvement, consistency, adaptability and mission are explained by national culture.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629(a)	.396	.383	7.23298

a Predictors: (Constant), National Culture

**Table 7.12 Model Summary (Involvement)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.599(a)	.359	.345	4.23430

a Predictors: (Constant), National Culture

**Table 7.13 Model Summary (Consistency)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.388(a)	.150	.133	6.62164

a Predictors: (Constant), National Culture

**Table 7.14 Model Summary (Adaptability)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.473(a)	.223	.207	6.93025

a Predictors: (Constant), National Culture

**Table 7.15 Model Summary (Mission)**

Tables 7.16, 7.17, 7.18 and 7.19 show the significance of the regression model. According to the F-value in the tables, the regressions are significant (Table 7.16 P-value=0.000, 7.17 P-value=0.000, 7.18 P-value=0.005, 7.19 P-value=0.001).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1644.832	1	1644.832	31.440	.000(a)
	Residual	2511.168	48	52.316		
	Total	4156.000	49			

a Predictors: (Constant), National Culture

b Dependent Variable: INVOLVEMENT

**Table 7.16 ANOVA (Involvement)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	481.074	1	481.074	26.832	.000(a)
	Residual	860.606	48	17.929		
	Total	1341.680	49			

a Predictors: (Constant), National Culture

b Dependent Variable: CONSISTENCY

**Table 7.17 ANOVA (Consistency)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	372.368	1	372.368	8.493	.005(a)
	Residual	2104.612	48	43.846		
	Total	2476.980	49			

a Predictors: (Constant), National Culture

b Dependent Variable: ADAPTABILITY

**Table 7.18 ANOVA (Adaptability)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	663.118	1	663.118	13.807	.001(a)
	Residual	2305.362	48	48.028		
	Total	2968.480	49			

a Predictors: (Constant), National Culture

b Dependent Variable: MISSION

**Table 7.19 ANOVA (Mission)**

Statistical test shows the there is significant effect from national culture to mission, adaptability, involvement and consistency. As table 7.20, 7.21, 7.22 and 7.23 show four of

the results are 0.000, 0.000, 0.005, and 0.001 which are smaller than 0.05 (maximum amount for significant effect) that means national culture has affect on involvement, consistency, adaptability, and mission.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	25.446	6.577		3.869	.000		
	INVOLVEMENT	.934	.174	.612	5.358	.000	1.000	1.000

a Dependent Variable: TQMimplementation

**Table 7.20 Coefficients (Involvement)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.619	4.240		1.090	.281		
	CONSISTENCY	2.384	.179	.887	13.301	.000	1.000	1.000

a Dependent Variable: TQMimplementation

**Table 7.21 Coefficients (Consistency)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	10.345	7.150		1.447	.154		
	ADAPTABILITY	1.409	.200	.712	7.032	.000	1.000	1.000

a Dependent Variable: TQMimplementation

**Table 7.22 Coefficients (Adaptability)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	22.378	4.936		4.533	.000		
	MISSION	1.354	.173	.749	7.839	.000	1.000	1.000

a Dependent Variable: TQMimplementation

**Table 7.23 Coefficients (Mission)**

Beta value for mission, adaptability, involvement and consistency in the tables are 0.473, 0.388, 0.599, and 0.629. Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much independent variables affect dependent variable.

However, as the statistical results and figure 7.2 showed, national culture has significant effect on mission, adaptability, involvement, and consistency. The next step is to consider the effect of organisational culture on TQM implementation.

### 7.10 Organisational culture as independent variable



**Figure 7.3** Might organisational culture effect on TQM

The result of the regression analysis on TQM implementation as the dependent variables has been considered.

The result from table 7.24 shows that, the regression equation more than 62% of variability of organisational culture. That is an acceptable level for  $R^2$  for explaining variability of organisational culture.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.791(a)	.625	.617	8.70062

a Predictors: (Constant), Organisational Culture

**Table 7.24 Model Summary (Organisational culture)**

That is an acceptable level for  $R^2$  for explaining variability of organisational culture. Analysis of variance (ANOVA) indicates that the model is significant at  $\alpha=0.05$  (Table 7.25).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6059.886	1	6059.886	80.051	.000(a)
	Residual	3633.634	48	75.701		
	Total	9693.520	49			

a Predictors: (Constant), Organisational Culture

b Dependent Variable: TQM implementation

**Table 7.25 ANOVA (TQM Implementation)**

Statistical test shows the there is significant effect from organisational culture to TQM. As table 7.26 shows the result of significant is 0.000 which is smaller than 0.05 (maximum amount for significant effect) that means organisational culture has affect on TQM.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	8.897	5.803		1.533	.132		
	Organisational Culture	.415	.046	.791	8.947	.000	1.000	1.000

a Dependent Variable: TQMimplementation

**Table 7.26 Coefficients (TQM Imlementation)**

Beta value in the table 7.26 is 0.791. Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much (79.1%) independent variables affect dependent variable.

**Organisation culture variables (mission, adaptability, involvement, and consistency) have significant effect TQM implementation factors (management commitment, role of the quality department, training and education, employee involvement, continuous improvement supplier partnership, quality policies)**

The results of the regression analysis on TQM implementation factors (management commitment, role of the quality department, training and education, employee involvement, continuous improvement supplier partnership, quality policies) as the dependent variables have been considered.

The results from tables 7.27, 7.28, 7.29, 7.30, 7.31, 7.32 and 7.33 show that, the regression equation are 52.6%, 43.4%, 65.2%, 77.2%, 52.5%, 52.4%, and 72.7% of variability of mission, adaptability, involvement and consistency. These are acceptable levels for R<sup>2</sup> for explaining variability of mission, adaptability, involvement and consistency.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.752(a)	.565	.526	1.90944

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

**Table 7.27 Model Summary (Management Commitment)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.693(a)	.481	.434	2.59871

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

**Table 7.28 Model Summary (Role of Quality Department)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825(a)	.681	.652	1.70570

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

**Table 7.29 Model Summary (Training and Education)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889(a)	.791	.772	.75458

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

**Table 7.30 Model Summary (Employee Involvement)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.751(a)	.564	.525	1.52797

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

**Table 7.31 Model Summary (Continues Improvement)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.750(a)	.563	.524	1.55484

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

**Table 7.32 Model Summary (Supplier Partnership)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.866(a)	.749	.727	1.39268

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

**Table 7.33 Model Summary (Quality Policy)**

That is an acceptable level for  $R^2$  for explaining variability of mission, adaptability, involvement, consistency. Analysis of variance (ANOVA) indicates that the models are significant at  $\alpha=0.05$  (Table 7.34, 7.35, 7.36, 7.37, 7.38, and 7.39).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	212.911	4	53.228	14.599	.000(a)
	Residual	164.069	45	3.646		
	Total	376.980	49			

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

b Dependent Variable: Management Commitment

**Table 7.34 ANOVA (Management Commitment)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	281.221	4	70.305	10.410	.000(a)
	Residual	303.899	45	6.753		
	Total	585.120	49			

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

b Dependent Variable: Role of the Quality Dep

**Table 7.35 ANOVA (Role of Quality Dep)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	279.076	4	69.769	23.980	.000(a)
	Residual	130.924	45	2.909		
	Total	410.000	49			

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

b Dependent Variable: Training Education

**Table 7.36 ANOVA (Training Education)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	96.878	4	24.219	42.536	.000(a)
	Residual	25.622	45	.569		
	Total	122.500	49			

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

b Dependent Variable: Employee Involvement

**Table 7.37 ANOVA (Employee Involvement)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	135.659	4	33.915	14.526	.000(a)
	Residual	105.061	45	2.335		
	Total	240.720	49			

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

b Dependent Variable: Continuous Improvement

**Table 7.38 ANOVA (Continuous Improvement)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	140.191	4	35.048	14.497	.000(a)
	Residual	108.789	45	2.418		
	Total	248.980	49			

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

b Dependent Variable: Supplier Partnership

**Table 7.39 ANOVA (Supplier Partnership)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	260.900	4	65.225	33.629	.000(a)
	Residual	87.280	45	1.940		
	Total	348.180	49			

a Predictors: (Constant), MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY

b Dependent Variable: Quality Policies

**Table 7.40 ANOVA (Quality Policy)**

Statistical test shows the there is significant effect from consistency to management commitment. As table 7.41 shows one of the results are 0.000 which is smaller than 0.05 (maximum amount for significant effect) that means consistency has affect on management commitment. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.	Collinearity Statistics	
		B	Std. Error	Beta	t		Tolerance	VIF
1	(Constant)	1.034	1.484		.697	.489		
	INVOLVEMENT	-.079	.051	-.261	-1.542	.130	.338	2.959
	CONSISTENCY	.691	.112	1.304	6.147	.000	.215	4.653
	ADAPTABILITY	-.015	.065	-.038	-.232	.817	.353	2.831
	MISSION	-.166	.081	-.466	-2.046	.047	.187	5.356

a Dependent Variable: ManagementCommitment

**Table 7.41 Coefficients (Management Commitment)**

Statistical test shows the there are significant effect from involvement and consistency to the role of quality department. As table 7.42 shows two of the results are 0.002 which is smaller than 0.05 (maximum amount for significant effect) that means involvement and consistency have significant effect on the role of quality department in Iran. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.987	2.020		.489	.627		
	INVOLVEMENT	-.231	.069	-.615	-3.325	.002	.338	2.959
	CONSISTENCY	.507	.153	.768	3.313	.002	.215	4.653
	ADAPTABILITY	.029	.088	.060	.334	.740	.353	2.831
	MISSION	.127	.110	.285	1.147	.258	.187	5.356

a Dependent Variable: RoleOfTheQualityDep  
**Table 7.42 Coefficients (Role of Quality Dep)**

Statistical test shows the there are significant effect from involvement to training education. As table 7.43 shows one of the results are 0.002 which is smaller than 0.05 (maximum amount for significant effect) that means involvement has significant effect on the training and education in Iran. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-3.787	1.326		-2.857	.006		
	INVOLVEMENT	.148	.046	.470	3.243	.002	.338	2.959
	CONSISTENCY	.203	.100	.368	2.024	.049	.215	4.653
	ADAPTABILITY	.144	.058	.353	2.490	.017	.353	2.831
	MISSION	-.114	.072	-.306	-1.569	.124	.187	5.356

a Dependent Variable: TrainingEducation  
**Table 7.43 Coefficients (Training and Education)**

Statistical test shows the there are significant effect from involvement to the employee involvement. As table 7.44 shows one of the results are 0.000 which is smaller than 0.05 (maximum amount for significant effect) that means involvement has significant effect on the employee involvement in Iran. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.406	.586		.692	.492		
	INVOLVEMENT	.120	.020	.698	5.953	.000	.338	2.959
	CONSISTENCY	.103	.044	.339	2.308	.026	.215	4.653
	ADAPTABILITY	.032	.026	.145	1.261	.214	.353	2.831
	MISSION	-.050	.032	-.248	-1.570	.123	.187	5.356

a Dependent Variable: EmployeeInvolvement

**Table 7.44 Coefficients (Employee Involvement)**

Statistical test shows the there is significant effect from consistency to the continuous improvement. As table 7.45 shows one of the results are 0.001 which is smaller than 0.05 (maximum amount for significant effect) that means consistency has significant effect on continues improvement in Iran. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.436	1.188		-.367	.716		
	INVOLVEMENT	.020	.041	.083	.490	.626	.338	2.959
	CONSISTENCY	.308	.090	.726	3.419	.001	.215	4.653
	ADAPTABILITY	.010	.052	.032	.196	.846	.353	2.831
	MISSION	-.021	.065	-.075	-.331	.742	.187	5.356

a Dependent Variable: ContinuousImprovement

**Table 7.45 Coefficients (Continues improvement)**

Statistical test shows the there is significant effect from consistency to supplier partnership. As table 7.46 shows one of the results are 0.000 which is smaller than 0.05 (maximum amount for significant effect) that means consistency have significant effect on the supplier partnership in Iran. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.070	1.208		1.713	.094		
	INVOLVEMENT	-.077	.041	-.317	-1.868	.068	.338	2.959
	CONSISTENCY	.402	.092	.934	4.396	.000	.215	4.653
	ADAPTABILITY	.113	.053	.356	2.149	.037	.353	2.831
	MISSION	-.089	.066	-.308	-1.350	.184	.187	5.356

a Dependent Variable: SupplierPartnership

**Table 7.46 Coefficients (Supplier Partnership)**

Statistical test shows the there are significant effect from involvement and consistency to the quality policies. As table 7.47 shows two of the results are 0.000 which are smaller than 0.05 (maximum amount for significant effect) that means involvement and consistency have significant effect on quality policies in Iran.

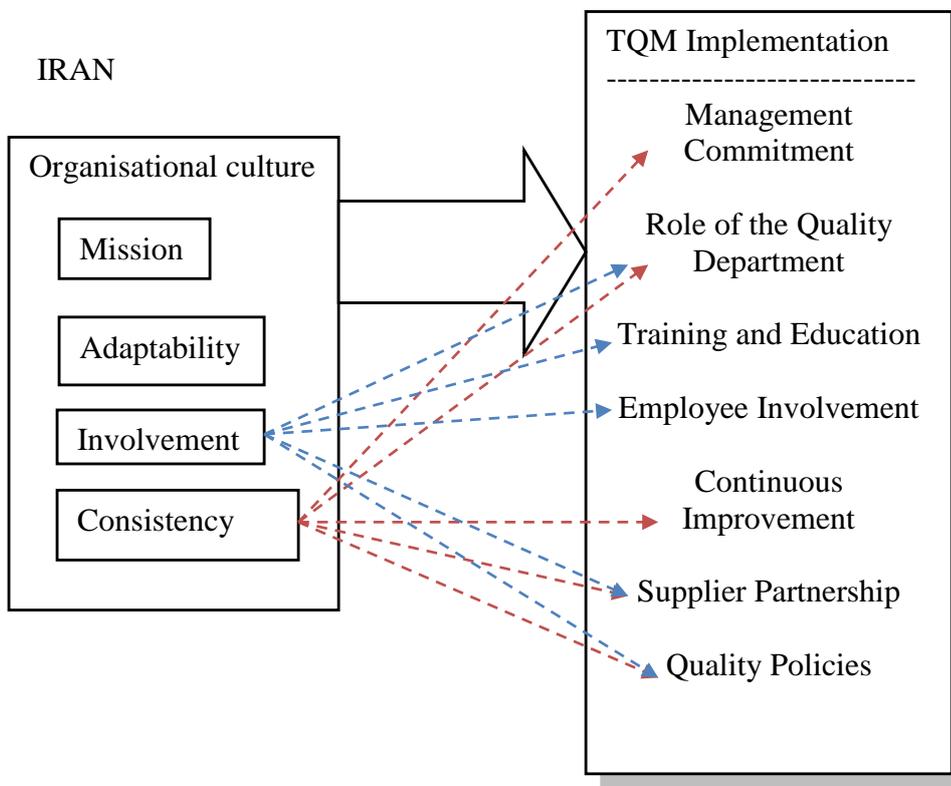
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.141	1.082		1.054	.297		
	INVOLVEMENT	-.198	.037	-.684	-5.329	.000	.338	2.959
	CONSISTENCY	.421	.082	.826	5.129	.000	.215	4.653
	ADAPTABILITY	.073	.047	.196	1.559	.126	.353	2.831
	MISSION	.124	.059	.362	2.095	.042	.187	5.356

a Dependent Variable: QualityPolicies

**Table 7.47 Coefficients (Quality Policy)**

Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much independent variables affect dependent variable. As tables 7.43, 7.46, and 7.47 show Beta values for involvement and training education, involvement and supplier partnership, and involvement and quality policies are low. That means there are not highly significant; because their beta values are very low. As figure 7.5 will show in next section, we can see the result of relationships between organisational culture and organisational culture variables with TQM implementation

## 7.11 Conclusion



**Figure 7.4 The effect of organisational culture on TQM implementation**

Figure 7.4 shows the result of regression analysis on the effect of organisational culture on TQM implementation in Iran. As this model shows, organisational culture has a significant effect on TQM implementation in general, but when the researcher tried to test organisational culture variables on the TQM implementation variables separately the result was different. As the figure shows, mission and adaptability has no significant effect on TQM implementation variables in Iran. Involvement has a significant effect on role of the quality department, training education, employee involvement, supplier partnership and quality policy, and there is no significant effect on management commitment and continues improvement. Consistency has significant on management commitment, role of the quality department, continuous improvement, and supplier partnership and quality policy. As these result shows, in Iran, TQM still is in earlier of adaptation in the organisations. As the result shows, organisations in Iran, still try to adapt the TQM in their organisation. They try to be involved and consistence the TQM implementation in different level of their organisations.

## **Chapter Eight (The UK Questionnaire Analysis)**

## 8.1 Introduction

This chapter presents the evidence collected from managers of British companies. First demographic information on the data set is provided. Then, descriptive statistic on the mean of each construct will be explained. The finding has been expressed in both narrative and graphic forms, which references to specific question when necessary. In the end reliability information on the item is discussed and finally the correlation matrix is explained. Incorporated into the findings are references to research from the literature review, to synthesis the study.

## 8.2 Demographic information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	limited company	39	81.3	97.5	97.5
	public limited company	1	2.1	2.5	100.0
	Total	40	83.3	100.0	
Missing	System	8	16.7		
Total		48	100.0		

**Table 8.1 How is your company constituted?**

97.5% respondents have been in the limited company and 2.5% of respondents have been in public limited company.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Super value good	13	27.1	32.5	32.5
	Consumer Durables	10	20.8	25.0	57.5
	Commodities Mass Production	17	35.4	42.5	100.0
	Total	40	83.3	100.0	
	Missing	System	8	16.7	
Total		48	100.0		

**Table 8.2 Please roughly position your company in one of the sectors?**

By using Puttick Grid Model, the concept of the framework, is that firms can broadly be categorised into four types of product/market situation with quiet different quality and requirements. 42.5% of the companies have been in commodities mass production, 25% of

them have been consumer durables and only 32.5% of respondents have been in super value good.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	more than 20	40	83.3	100.0	100.0
Missing	System	8	16.7		
Total		48	100.0		

**Table 8.3 How long has your company been trading?**

Table 8.3 shows all of the companies in the UK have been working for more than 20 years.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-500	38	79.2	95.0	95.0
	501-2000	2	4.2	5.0	100.0
	Total	40	83.3	100.0	
Missing	System	8	16.7		
Total		48	100.0		

**Table 8.4 How many employees do you have?**

Table 8.4 shows amount of employees in the companies, its clear 95% of companies have got less than 500 employees, and only 5% of them have got more than 501 employees.

### 8.3 Descriptive statistics

The mean and standard deviations for each independent variable have been calculated. The results are provided below. To calculate the mean for each variable (construct), first the total values for all questions for a given construct were calculated. Then, the mean was calculated by dividing the total values by the number of questions. “Minimum” and “maximum” refer to the minimum and maximum score received in response to the questions on a particular construct (for a given person). For example, there are twenty four questions for TQM. The sum of the values that one respondent gave to all of questions was 54 (which was the minimum score), and another respondent gave a total value of 109 (which was the maximum).

Independent variables are: management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policies.

	Mean	Std. Deviation
Management Commitment	12.4250	1.73778
Role Of Quality Dep	11.9000	1.42864
Training Education	8.6000	2.78089
Employee Involvement	6.3750	1.42662
Continuous Improvement	7.8250	1.66237
Supplier Partnership	7.0250	1.27073
Quality Policy	10.9750	2.44412

**Table 8.5 Item Statistics (TQM implementation)**

Dependent variables are: consistency, adaptability, mission, and involvement as table 8.6 shows.

	Mean	Std. Deviation	Minimum	Maximum	N
CONSISTENCY	26.6250	3.41706	18.00	32.00	40
ADAPTABILITY	34.1750	5.02245	22.00	43.00	40
MISSION	30.5500	4.66822	20.00	36.00	40
INVOLVMENT	36.6750	4.93749	27.00	44.00	40

**Table 8.6 Item Statistics (Organisational culture)**

## 8.4 Hypothesis testing

SPSS is used for hypothesis testing and parametric data analysis in this section. Data normality is assessed through examining the values of skewness and kurtosis for each variable in the study, as shown in the Table 8.7.

	MANAGEMENT	ROLE	OF THE	TRAINING	EMPLOY_A	CONTINUOUS	SUPPLIER	QUALITY
Grand Total								
Kurtosis								
	-.69	-.93	-1.46	.18	1.79	.74	-.50	
Skewness								
	.21	-.37	.18	-.15	-.94	-.42	-.01	

**Table 8.7 Examining the value of Skewness and Kurtosis**

Skewness values falling outside the range of -1 to +1 indicate a substantially skewed or abnormal distribution, and kurtosis values falling outside the range of -3 to +3 also indicate a substantially peaked or abnormal distribution (Hair et al 1998, Dancey & Reidy 2002, Hair et al 2003). The values of skewness and kurtosis for the study indicate that the data for all the variables are normally distributed.

Central limit theorem states that in random sampling from an arbitrary population when the sample size exceeds 30 observations, the distribution of the sample mean is approximately normal (Cooper & Emory 1995, Tamhane & Dunlop 2000, Mann 2001, Johnson & Bhattacharyya 2001, Tabachnick & Fidell 2001, Berenson et al 2002, Dancey & Reidy 2002, Sekaran 2003). In large samples, the impact of departure from zero kurtosis also diminishes. For example, underestimates of variance associated with positive kurtosis (distributions with short, thick tails) disappear with samples of 100 or more cases; with negative kurtosis, underestimation of variance disappears with samples of 200 or more (Waternaux, 1976).

## 8.5 Correlation between variables

As has been explained in chapter 7 (Section 7.5) they show that multicollinearity leads to inaccurate estimates of coefficients and standard errors as well as inference errors, but they also consider that the problem should not be viewed in separation, and that a high  $R^2$  and large sample size can solve the problems caused by multicollinearity. The multivariate correlation matrix of the study indicates no multicollinearity ( $R = 0.80$  or higher) among study variables (Hair et al 1998, Tabachnick & Fidell 2001), as Table 8.8 indicates.

The direction of relationships among variables is another issue that should be considered in analysing the correlations between variables. A positive correlation indicates that the direction of the relationship is positive (if one increases, the other one increases). A negative correlation indicates an inverse relationship between variables (if one increases the other one increase).

	Management Commitment	Role Of Quality Dep	Training Education	Employee Involvement	Continuous Improvement	Supplier Partnership	Quality Policy
Management Commitment	1	.503(*)	<b>-.128</b>	.399(*)	<b>.312</b>	.518(*)	.413(*)
		.013	<b>.430</b>	.011	<b>.139</b>	.010	.018
		40	<b>40</b>	40	<b>40</b>	40	40
Role Of Quality Dep		1	.532(*)	<b>.082</b>	<b>.198</b>	.411(*)	.630(*)
			.019	<b>.616</b>	<b>.222</b>	.028	.017
			40	<b>40</b>	<b>40</b>	40	40
Training Education			1	.175	.314	.010	.569(*)
				.000	.002	.005	.010
				40	40	40	40
Employee Involvement				1	.603(*)	.405(*)	.562(*)
					.018	.014	.013
					40	40	40
Continuous Improvement					1	<b>.221</b>	.415(*)
						<b>.171</b>	.019
						<b>40</b>	40
Supplier Partnership						1	.430(*)
							.016
							40
Quality Policy							1

\*\* Correlation is significant at the 0.01 level (2-tailed)

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

**Table 8.8 Correlation**

Multicollinearity is also assessed through individual tolerance and VIF values for each regression analysis conducted later. Tolerance and VIF measures indicate the degree to which each independent variable is explained by the other independent variables. Tolerance is the amount of variability of the selected independent variable not explained by the other independent variables. Thus very small tolerance values (and thus large VIF values because  $VIF = 1 / \text{tolerance}$ ) denote high collinearity. A common cut-off threshold is a tolerance value of 0.10, which corresponds to a VIF value above 10 (Hair et al 1998).

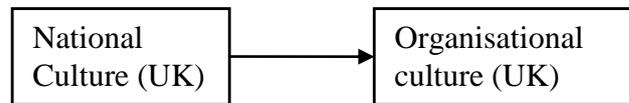
Based on the correlation matrix (table 8.8), the highest correlation between variable is between role of the quality department and quality policies ( $r=0.613$ ). This was expected for British companies, as quality department is important element to apply quality policies in organisations. The second highest correlation is between employee involvement and continuous improvement ( $r=0.603$ ). This element shows the role of employee in implementation and operation of TQM. Finally, the third highest correlation is between training education and quality policies ( $r=0.559$ ).

## 8.6 Regression Analysis

Regression analysis was divided into two different parts; first part was to find effect of national culture on organisational culture and organisational culture variable, in order to find this relationship, researcher made a series of regression analyses. Second part was to find effect of organisational culture on TQM implementation. In order to determine the effect of organisational culture, involvement (empowerment, team orientation, capability development), consistency (core value, coordination and integration), adaptability (creating change, customer focus, and organisational learning), mission (strategic direction, goal objective, and vision) on TQM implementation (management commitment, role of the quality department, training and education, employee involvement, continuous improvement, supplier partnership, and quality policies) results, a series of regression analyses were performed. The regression analysis determines which variables (independent variables) explain variability in the outcome (dependent variables), how much variability in the dependent variables is explained by the independent variables, and which variables are significant (over other variables) in explaining the variability of the dependent variable.

In multiple regression analysis “Enter” regression method is used because simultaneous effects of all independent variables are required. In the standard, or simultaneous cause effect analysis, all independent variables enter into the regression equation at once; each one is assessed as if it had entered the regression after all other independent variables had entered. Each independent variable is evaluated in terms of what it adds to prediction of the dependent variable that is different from the predictability afforded by all the other independent variables (Tabachnick & Fidell 2001). Standardized beta coefficients are used in regression equations because they eliminate the problem of dealing with different units of measurement, thus reflecting the relative impact on the dependent variable of a change in one standard deviation in either variable. Therefore, standardized beta coefficients determine which variable has the strongest impact (Berenson et al 2002, Dancey & Reidy 2002). However, beta coefficients are used as a guide to the relative importance of the independent variables included in the equation (not in an absolute sense), and only over the range of values for which sample data actually exists (Hair et al 1998). Adjusted  $R^2$  index, rather than  $R^2$ , is used to determine the amount of explained variance of the dependent variable because it takes into account sample size and the number of independent variables (Tabachnick & Fidell 2001). In addition, adjusted  $R^2$  is more realistic to generalise to the population (Dancey & Reidy 2002).

### 8.6.1 Cultural approach and British organisation



**Figure 8.1 Relationship between national culture and organisational culture**

First, national culture is one of factors has influence on organisational culture; in this part researcher examines the contribution of national culture on of British organisational culture variables.

The result from table 8.9 shows that, the regression equation more than 55.2% of variability of national culture. That is an acceptable level for  $R^2$  for explaining variability of organisational culture.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.750(a)	.563	.552	10.65106

a Predictors: (Constant), National Culture

**Table 8.9 Model Summary (National culture)**

Analysis of variance (ANOVA) indicates that the model is significant at  $\alpha=0.05$  (Table 8.10).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5556.061	1	5556.061	48.976	.000(a)
	Residual	4310.914	38	113.445		
	Total	9866.975	39			

a Predictors: (Constant), National Culture

b Dependent Variable: ORGANISATIONAL CULTURE

**Table 8.10 ANOVA (Organisational culture)**

Statistical test shows the there is significant effect from national culture to organisational culture. As table 8.11 shows the result of significant is 0.000 which is lower than 0.05 (maximum amount for significant effect) that means national culture has significant affect on organisational culture (figure 8.1). Table 8.11 shows the VIF value for the model indicates that there is not any problem with multi-collinearity. The VIF value is smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.830	17.400		.393	.697		
	Culture	2.684	.384	.750	6.998	.000	1.000	1.000

a Dependent Variable: ORGANISATIONALCULTURE

**Table 8.11 Coefficients (Organisational Culture)**

Beta value in the table 8.11 is 0.750. Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much (75%) independent variables affect dependent variable.

In the following part the researcher examines the relationship between national culture and organisation culture variables.

The results from tables 8.12, 8.13, 8.14, and 8.15 show R<sup>2</sup> for the regression model. It indicates that 58.3%, 18.4%, 34.7% and 56.5% of variability of involvement, consistency, adaptability and mission are explained by national culture.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771(a)	.594	.583	3.18695

a Predictors: (Constant), National Culture

**Table 8.12 Model Summary (Involvement)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.456(a)	.208	.187	3.08075

a Predictors: (Constant), National Culture

**Table 8.13 Model Summary (Consistency)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.603(a)	.363	.347	4.06007

a Predictors: (Constant), National Culture

**Table 8.14 Model Summary (Adaptability)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.759(a)	.577	.565	3.07741

a Predictors: (Constant), National Culture

**Table 8.15 Model Summary (Mission)**

Tables 8.16, 8.17, 8.18 and 8.19 show the significance of the regression model. According to the F-value in the tables, the regressions are significant (Table 8.16 P-value=0.000, 8.17 P-value=0.003, 8.18 P-value=0.000, 8.19 P-value=0.000).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	564.822	1	564.822	55.611	.000(a)
	Residual	385.953	38	10.157		
	Total	950.775	39			

a Predictors: (Constant), National Culture

b Dependent Variable: INVOLVEMENT

**Table 8.16 ANOVA (Involvement)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	94.715	1	94.715	9.979	.003(a)
	Residual	360.660	38	9.491		
	Total	455.375	39			

a Predictors: (Constant), National Culture

b Dependent Variable: CONSISTENCY

**Table 8.17 ANOVA (Consistency)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	357.376	1	357.376	21.680	.000(a)
	Residual	626.399	38	16.484		
	Total	983.775	39			

a Predictors: (Constant), National Culture

b Dependent Variable: ADAPTABILITY

**Table 8.18 ANOVA (Adaptability)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	490.022	1	490.022	51.742	.000(a)
	Residual	359.878	38	9.470		
	Total	849.900	39			

a Predictors: (Constant), National Culture

b Dependent Variable: MISSION

**Table 8.19 ANOVA (Mission)**

Statistical test shows the there is significant effect from national culture to mission, adaptability, involvement and consistency. As table 8.20, 8.21, 8.22, and 8.23 show four of the results are 0.000, 0.003, 0.000, and 0.000 which are smaller than 0.05 (maximum amount for significant effect) that means national culture has affect on involvement, consistency, adaptability, and mission. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.967	5.206		-.378	.708		
	Culture	.856	.115	.771	7.457	.000	1.000	1.000

a Dependent Variable: INVOLVEMENT  
**Table 8.20 Coefficients (Involvement)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	10.801	5.033		2.146	.038		
	Culture	.350	.111	.456	3.159	.003	1.000	1.000

a Dependent Variable: CONSISTENCY  
**Table 8.21 Coefficients (Consistency)**

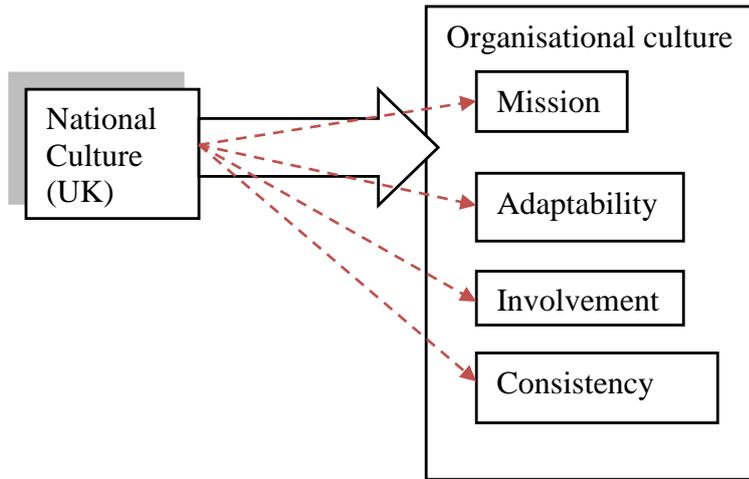
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.438	6.633		.518	.607		
	Culture	.681	.146	.603	4.656	.000	1.000	1.000

a Dependent Variable: ADAPTABILITY  
**Table 8.22 Coefficients (Adaptability)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-5.442	5.027		-1.083	.286		
	Culture	.797	.111	.759	7.193	.000	1.000	1.000

a Dependent Variable: MISSION  
**Table 8.23 Coefficients (Mission)**

Beta value for mission, adaptability, involvement and consistency in the tables are 0.771, 0.456, 0.603, and 0.759. Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much independent variables affect dependent variable.



**Figure 8.2 National culture has significant effect on organisational culture**

However, as the statistical results and figure 8.2 shows, national culture has significant effect on mission, adaptability, involvement, and consistency. The next step is to consider the interview for finding the relationship between national culture and organisational culture (Mission, adaptability, involvement and consistency). A study of the way and the extent national culture institutions in the UK create and reinforce the values relevant to this study will help statistical hypothesise the way they would influence organisations in the UK.

### 8.6.3 Organisational culture as independent variable



**Figure 8.3 Might organisational culture effect on TQM**

In this section organisation culture is one of factors has influence on TQM implementation; in this part researcher examines the contribution of national culture institutions to certain sets of British TQM implementation value.

The result from table 8.24 shows that, the regression equation more than 55.9% of variability of organisational culture. That is an acceptable level for  $R^2$  for explaining variability of organisational culture.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755(a)	.570	.559	6.08003

a Predictors: (Constant), ORGANISATIONALCULTURE

**Table 8.24 Model Summary (Organisational Culture)**

That is an acceptable level for  $R^2$  for explaining variability of organisational culture. Analysis of variance (ANOVA) indicates that the model is significant at  $\alpha=0.05$  (Table 8.25).

**Table 8.25 ANOVA (b)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1861.637	1	1861.637	50.360	.000(a)
	Residual	1404.738	38	36.967		
	Total	3266.375	39			

a Predictors: (Constant), ORGANISATIONALCULTURE

b Dependent Variable: TQMIMPLEMENTATION

**Table 8.25 ANOVA (TQM Implementation)**

Statistical test shows the there is significant effect from organisational culture to TQM. As table 8.26 shows the result of significant is 0.000 which is smaller than 0.05 (maximum amount for significant effect) that means organisational culture has affect on TQM implementation.

Model	M	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	9.515	7.895		1.205	.236		
	ORGANISATIONALCULTURE	.434	.061	.755	7.096	.000	1.000	1.000

a Dependent Variable: TQMIMPLEMENTATION

**Table 8.26 Coefficients (TQM Implementation)**

Beta value in the table 8.26 is 0.755. Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much (75.5%) independent variables affect dependent variable. The VIF value for the model indicates that there is not any problem with multi-collinearity. The VIF value is smaller than 10.

**Organisation culture variables (Mission, Adaptability, involvement, and Consistency) has significant effect TQM implementation factors (management commitment, role of the quality department, training and education, employee involvement, continuous improvement supplier partnership, quality policies)**

The results from tables 8.27, 8.28, 8.29, 8.30 8.31, 8.32 and 8.33 show that, the regression equation are 54.8%, 24.2%, 5.1%, 28.2%, 47.4%, 59.5% , and 48.4% of variability of mission, adaptability, involvement and consistency. These are acceptable levels for R<sup>2</sup> for explaining variability of mission, adaptability, involvement and consistency.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.771(a)	.595	.548	1.16806

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
**Table 8.27 Model Summary (Management Commitment)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.566(a)	.320	.242	1.24362

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
**Table 8.28 Model Summary (Role of Quality Department)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.385(a)	.148	.051	2.70893

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
**Table 8.29 Model Summary (Training and Education)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.596(a)	.356	.282	1.20883

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
**Table 8.30 Model Summary (Employee Involvement)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726(a)	.528	.474	1.20603

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
**Table 8.31 Model Summary (Continues Improvement)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.798(a)	.637	.595	.80841

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
**Table 8.32 Model Summary (Supplier Partnership)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.733(a)	.537	.484	1.75611

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
**Table 8.33 Model Summary (quality Policy)**

That is an acceptable level for  $R^2$  for explaining variability of mission, adaptability, involvement, consistency. Analysis of variance (ANOVA) indicates that the models are significant at  $\alpha=0.05$  (Table 8.34, 8.35, 8.36, 8.37, 8.38, 8.39, 8.40).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	70.022	4	17.506	12.831	.000(a)
	Residual	47.753	35	1.364		
	Total	117.775	39			

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
b Dependent Variable: Management Commitment  
**Table 8.34 ANOVA (Management Commitment)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25.469	4	6.367	4.117	.008(a)
	Residual	54.131	35	1.547		
	Total	79.600	39			

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
b Dependent Variable: Role of Quality Dep  
**Table 8.35 ANOVA (Role of Quality Dep)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	44.759	4	11.190	1.525	.216(a)
	Residual	256.841	35	7.338		
	Total	301.600	39			

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT  
b Dependent Variable: Training Education  
**Table 8.36 ANOVA (Training and Education)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.230	4	7.058	4.830	.003(a)
	Residual	51.145	35	1.461		
	Total	79.375	39			

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT

b Dependent Variable: Employee Involvement

**Table 8.37 ANOVA (Employee Involvement)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	56.867	4	14.217	9.774	.000(a)
	Residual	50.908	35	1.455		
	Total	107.775	39			

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT

b Dependent Variable: Continuous Improvement

**Table 8.38 ANOVA (Continuous Improvement)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	40.102	4	10.025	15.341	.000(a)
	Residual	22.873	35	.654		
	Total	62.975	39			

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT

b Dependent Variable: Supplier Partnership

**Table 8.39 ANOVA (Supplier Partnership)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	125.037	4	31.259	10.136	.000(a)
	Residual	107.938	35	3.084		
	Total	232.975	39			

a Predictors: (Constant), MISSION, ADAPTABILITY, CONSISTENCY, INVOLVMENT

b Dependent Variable: Quality Policy

**Table 8.40 ANOVA (Quality Policy)**

Statistical test shows the there is significant effect from mission to management commitment.

As table 8.41 shows one of the results is 0.002 which is smaller than 0.05 (maximum amount for significant effect) that means mission has affect on management commitment.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.125	1.550		2.017	.051		
	INVOLVEMENT	.031	.076	.089	.411	.684	.249	4.023
	CONSISTENCY	.141	.094	.277	1.493	.144	.337	2.970
	ADAPTABILITY	-.076	.053	-.220	-1.425	.163	.487	2.052
	MISSION	.229	.067	.616	3.424	.002	.358	2.792

a Dependent Variable: ManagementCommitment

**Table 8.41 Coefficients (Management Commitment)**

As table 8.42, there are not any of the results smaller than 0.05 (maximum amount for significant effect), that means that means there are no significant effect between involvement, consistency, adaptability and mission) with role of quality department in the UK. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5.748	1.650		3.484	.001		
	INVOLVEMENT	.057	.081	.196	.702	.488	.249	4.023
	CONSISTENCY	-.012	.100	-.028	-.115	.909	.337	2.970
	ADAPTABILITY	.054	.057	.192	.959	.344	.487	2.052
	MISSION	.082	.071	.269	1.156	.256	.358	2.792

a Dependent Variable: RoleOfQualityDep

**Table 8.42 Coefficients (Role of Quality Dep)**

As table 8.43, there are not any of the results smaller than 0.05 (maximum amount for significant effect), that means that means there are no significant effect between involvement, consistency, adaptability and mission) with role of quality department in the UK. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

del	Mo	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.803	3.594		1.058	.297		
	INVOLVEMENT	.220	.176	.390	1.246	.221	.249	4.023
	CONSISTENCY	-.288	.219	-.353	-1.315	.197	.337	2.970
	ADAPTABILITY	.202	.124	.365	1.632	.112	.487	2.052
	MISSION	-.082	.155	-.137	-.527	.602	.358	2.792

a Dependent Variable: TrainingEducation

**Table 8.43 Coefficients (Training and Education)**

As table 8.44, there are not any of the results smaller than 0.05 (maximum amount for significant effect), that means that means there are no significant effect between involvement, consistency, adaptability and mission) with role of quality department in the UK. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

del	Mo	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.618	1.604		.385	.702		
	INVOLVEMENT	.176	.079	.610	2.241	.031	.249	4.023
	CONSISTENCY	-.116	.098	-.279	-1.192	.241	.337	2.970
	ADAPTABILITY	.046	.055	.162	.832	.411	.487	2.052
	MISSION	.027	.069	.088	.389	.699	.358	2.792

a Dependent Variable: EmployeeInvolvement

**Table 8.44 Coefficients (Employee Involvement)**

Statistical test shows the there is significant effect from consistency to the continuous improvement. As table 8.45 shows one of the results is 0.004 which is smaller than 0.05 (maximum amount for significant effect) that means mission has significant effect on

continues improvement in the UK. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.146	1.600		.091	.928		
	INVOLVEMENT	.081	.078	.240	1.030	.310	.249	4.023
	CONSISTENCY	-.144	.097	-.295	-1.474	.149	.337	2.970
	ADAPTABILITY	.060	.055	.183	1.097	.280	.487	2.052
	MISSION	.212	.069	.595	3.066	.004	.358	2.792

a Dependent Variable: ContinuousImprovement

**Table 8.45 Coefficients (Continuous Improvement)**

Statistical test shows the there is significant effect from consistency to supplier partnership. As table 8.46 shows two of the results are 0.000, and 0.002 which are smaller than 0.05 (maximum amount for significant effect) that means consistency and adaptability have significant effect on the supplier partnership in the UK. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.023	1.072		-.022	.983		
	INVOLVEMENT	-.067	.053	-.261	-1.277	.210	.249	4.023
	CONSISTENCY	.275	.065	.740	4.218	.000	.337	2.970
	ADAPTABILITY	.127	.037	.503	3.444	.002	.487	2.052
	MISSION	-.071	.046	-.261	-1.531	.135	.358	2.792

a Dependent Variable: Supplier Partnership

**Table 8.46 Coefficients (Supplier Partnership)**

Statistical test shows the there are significant effect from involvement and consistency to the quality policies. As table 8.48 shows one of the results is 0.000 which is smaller than 0.05 (maximum amount for significant effect) that means adaptability has significant effect on

quality policies in the UK. The VIF value for the model indicates that there is not any problem with multi-collinearity. All VIF values are smaller than 10.

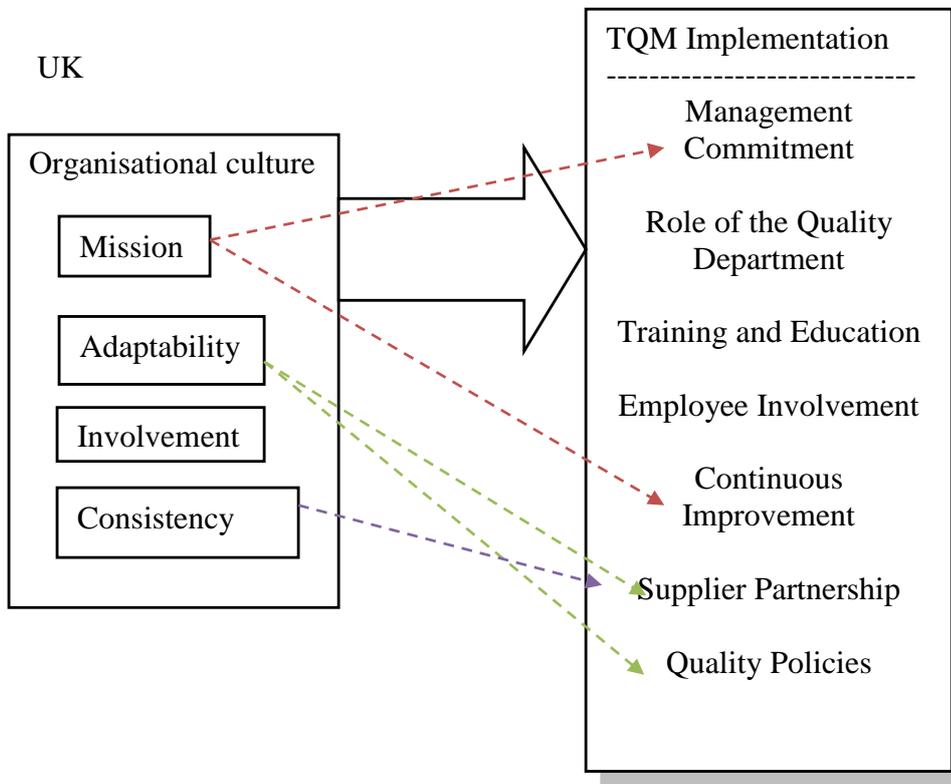
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.578	2.330		-.677	.503		
	INVOLVEMENT	.152	.114	.307	1.331	.192	.249	4.023
	CONSISTENCY	-.187	.142	-.262	-1.322	.195	.337	2.970
	ADAPTABILITY	.228	.080	.469	2.847	.007	.487	2.052
	MISSION	.136	.101	.260	1.355	.184	.358	2.792

a Dependent Variable: QualityPolicy

**Table 8.47 Coefficients (Quality Policy)**

Beta reflects the relative impact on the dependent variable of a change in one standard deviation in the independent variables, another words, it is how much independent variables affect dependent variable. As table 8.48 shows Beta values for adaptability and quality policies is relatively low. That means all of the results are highly significant. As figure 8.5 shows in the following section, we can see the result of relationships between organisational culture and organisational culture variables with TQM implementation

## 8.7 Conclusion



**Figure 8.4 The effect of organisational culture on TQM implementation**

Figure 8.4 shows the result from regression analysis on the effect of organisational culture on TQM implementation in the UK. As this model shows, organisational culture has a significant effect on TQM implementation in general, but when the researcher tried to test organisational culture variables on the TQM implementation separately the result was different. As the figure shows, mission has a significant effect on only management commitment and continuous improvement, and there is no relationship between this variable with rest of the TQM implementation variables. Adaptability has significant effect on supplier partnership and quality policy, and there is no relationship between adaptability with rest of the TQM implementation in the UK. Involvement has not got any significant effect on the TQM implementation variables and consistency has only significant on supplier partnership. As these result shows, organisational culture has been effected implementation and operation of TQM in the UK.

## **Chapter Nine (Discussion)**

## 9.1 Introduction

The aim of chapter 9 is to compare the organisational culture and TQM implementation variables in the UK and Iran. The researcher studied the implementation of TQM in 40 organisations in the United Kingdom and 50 organisations in Iran, and the results presented here are derived from these organisations.

The previous chapters have shown that Iranian organisational culture had the most effect on process management commitment, focus on customer satisfaction, employee involvement and quality policy. This indicates that organisational culture is an important element to ensure successful implementation of TQM.

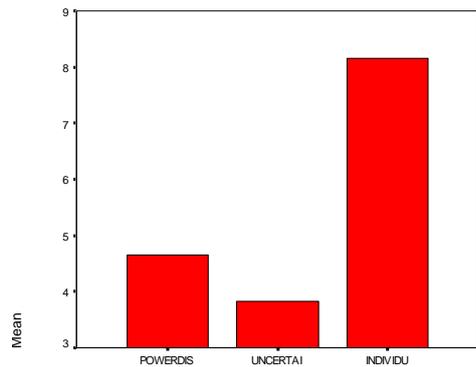
The measurement of national culture model in both the United Kingdom and Iran has been adapted through Hofstede's (2001) model (Chapter 2).

The researcher has translated the Denison (2006) Organisational Culture model, in order to show the relationship between organisations in the two above mentioned countries. The review of the questionnaire and interview results verified the relationship between all levels of organisation in British companies and Iranian companies. This discussion chapter is divided in two parts, the first part is a comparative result from the findings and then the second part is a general discussion related to the literature and result of this study.

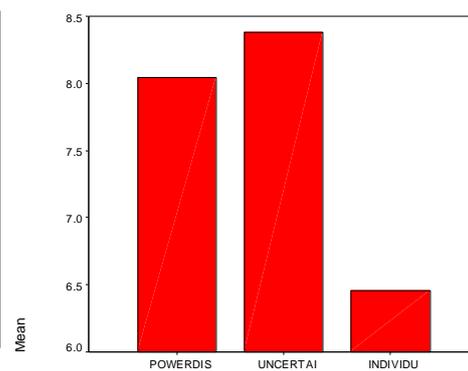
## 9.1 Overview of National Culture, Organisational Culture and TQM

The research model has been driven from Hofstede, Denison (Chapter 2) and has been adapted with ISO TQM implementation (Chapter 4) to provide a monitoring system between two cultural organisations. The researcher has, considering Denison's model, adapted the relationship between adaptability, mission, involvement, and consistency to obtain TQM implementation.

### 9.1.1 National culture in the United Kingdom and Iran



**Figure 9.1 National culture in the UK**



**Figure 9.2 National culture in the Iran**

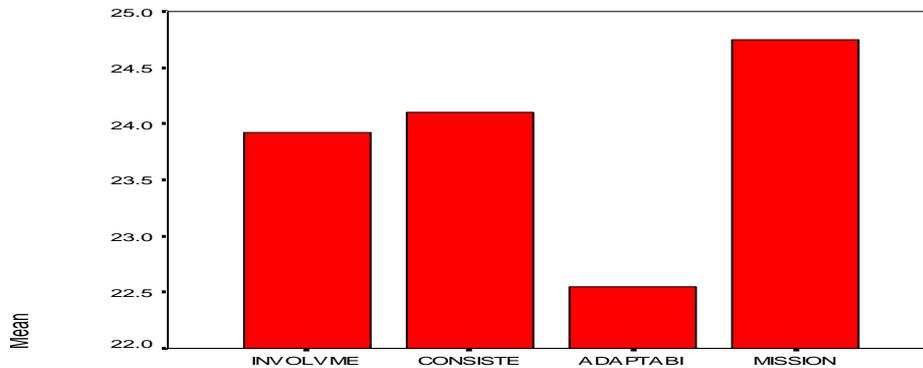
The result from above chart shows, power distance index (PDI) in the United Kingdom is 4.7 and that of Iran is 8.2. This means the countries have different belief, and these have different effects on dimensions of culture. For example, according to the interviews, Iranian prefers their children to know their duties (to perform) to their parents.

The results for uncertainty avoidance show that the United Kingdom is 3.8 and Iran is 8.3, this indicates that the British are not as worried by uncertainty as the Iranian are. The typical Iranian does not see a clear horizon and has uncertainty with regard their future.

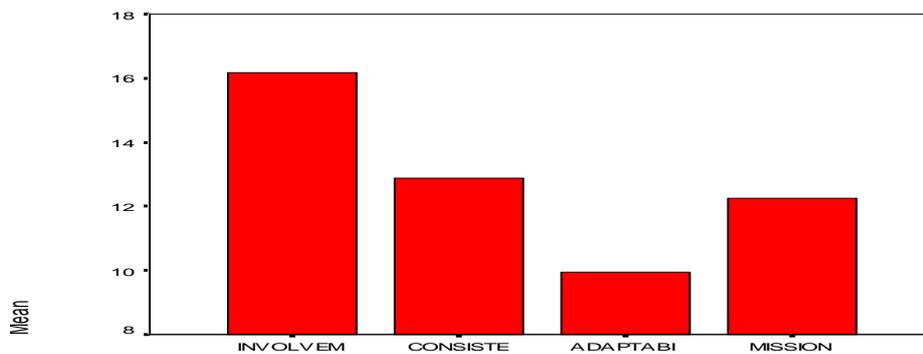
The final result from above chart shows that individuality in the United Kingdom is 8.2 and in Iran is 6.4. That means the United Kingdom is far more individualist than Iran. And also in Iran the whole society is considered to be one unity and more important than individualist needs.

## 9.2 The study of organisation culture and TQM in the United Kingdom and Iran

The researcher has used the variables of adaptability, mission, involvement, and consistency to measure organisational culture in both countries.



**Figure 9.3 Measurement of organisational culture variables in the UK**



**Figure 9.4 Measurement of organisational culture variables in Iran**

The above charts explain that in the United Kingdom, organisations have a longer term mission, with high adaptability, consistency and involvement in all level of organisations. Meaning, those organisations considered in the United Kingdom have a long term plan, strategy, goal and objective. They also have strong core values. In Iran, the situation is completely different. Organisations are highly influenced by the external environment (political, economical, social and technological). These environments factors make it difficult for Iranian organisation to have long term planning, strategies, goal and objectives.

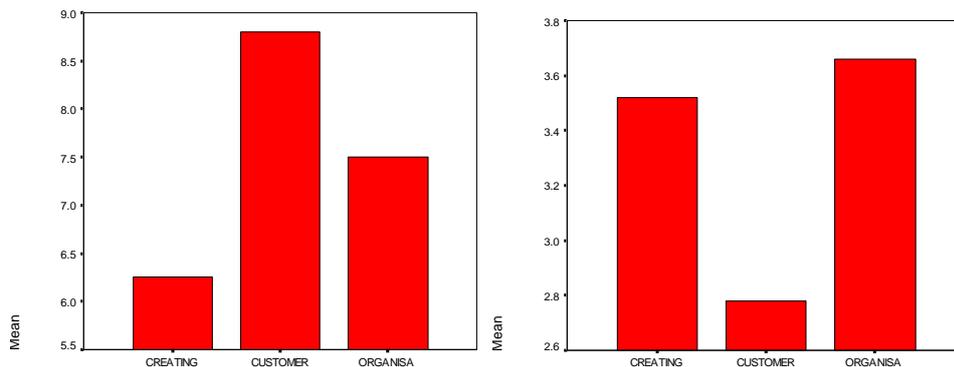
In the continuation of this chapter the researcher wishes to individually discuss the organisational culture variables, consisting:

- Adaptability: creating change, customer focus, and organisational learning.
- Mission: Strategic deviation, goal and objectives, vision.

- Involvement: empowerment, team orientation, capability and development.
- Consistency: core value, and cooperation and value.

### 9.2.1 Adaptability (Chapter 3)

Briefly to harmonize the objectives of the organisation with all of other factors, the organisation needs to be constantly changing and up grading.

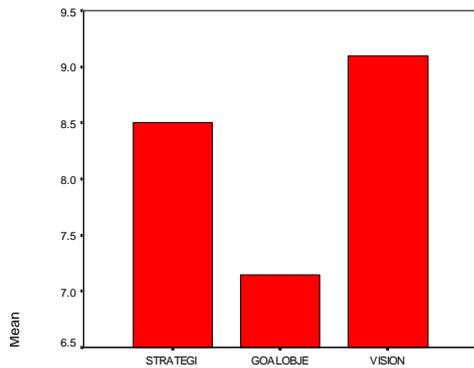


**Figure 9.5 Adaptability variables in the UK    Figure 9.6 Adaptability Variables in Iran**

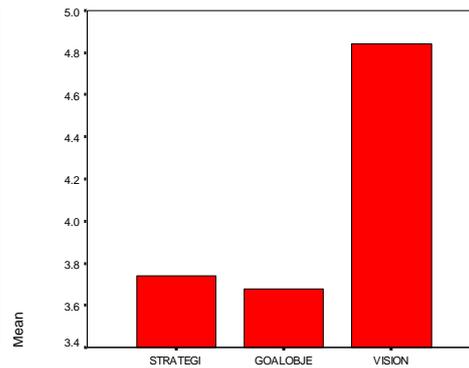
One of the parameters to reach successful TQM is to develop strong adaptability. The chart shows in the United Kingdom, adaptability is stronger than in Iran. This means to achieve strong adaptability, organisations have to employ fast learning techniques and at the same time focus on customer satisfaction, and also organisations need to be creative in changing their policy against external and internal environmental changes.

### 9.2.2 Mission (chapter 3)

Denison suggests that successful organisations have a clear sense of purpose and direction that defines organisational goals and strategic objectives and expresses a vision of how the organisation will look in the future. When the mission of an organisation is changed, the organisational culture is also affected.



**Figure 9.7 Mission variables in the UK**



**Figure 9.8 Mission variables in Iran**

One of the requirements to reach successful organisation is to have a long vision with a strong strategy to reach the objectives. The charts compare the United Kingdom organisations, which have a value at 9.2 with the Iranian organisations which have a value at 4.9. This comparison suggests that the United Kingdom organisations have longer vision for their organisation, and this helps British organisations to create long term strategy and to have strong and different objectives. On the other hand, Iranian organisations because of the influence of external environmental variables or the lack of experience and knowledge in their organisation, have shorter vision that affects their strategy and plan. This makes their objective for shorter term processes.

### 9.2.3 Involvement (Chapter 3)

Denison suggests that organisational cultures must strongly encourage employees and involve them to create a sense of ownership and responsibility in the organisation.

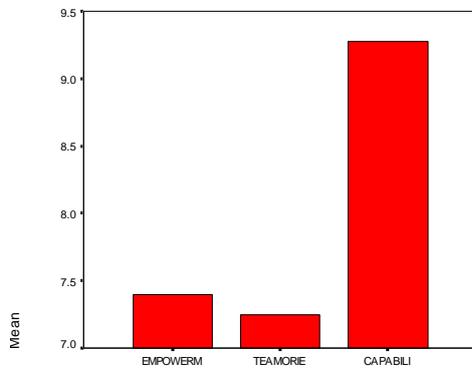


Figure 9.9 Involvement variables in the UK

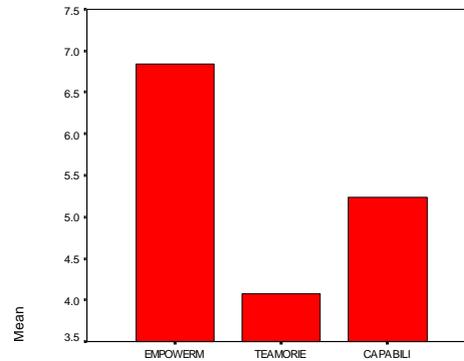
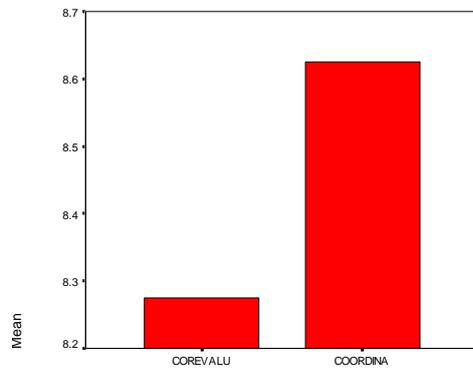


Figure 9.10 Involvement variables in Iran

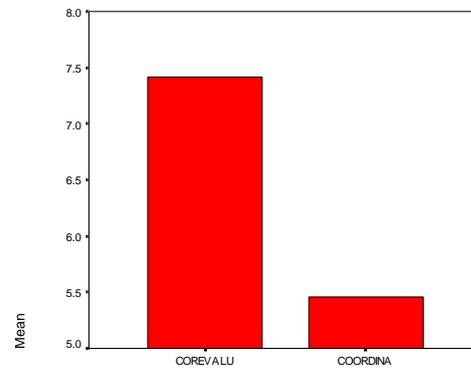
As the charts show the UK organisations studied strongly empower their people, build their organisation around teams, and develop human capability at all levels. Therefore, managers, and employees are committed to their work and feel that they are part of the organisation. However, people at all levels can feel that they have at least some influence into decisions that will make their work effective, and that their work is directly connected to the goals of the organisation. On the other hand the Iranian organisations studied empower their employees with high control that reduces team work and capability of their employees.

## 9.2.4 Consistency (Chapter 3)

Denison suggests that consistency make organisations have a central source of additional, core-values and control.



**Figure 9.11 Consistency variables in the UK**



**Figure 09.12 Consistency variables in Iran**

As can be seen in the charts, the United Kingdom organisations tend to be effective because they have strong cultures that are highly consistent, and well coordinated. We can see, British organisations' behaviour is rooted in a set of core values, and leaders and followers are skilled at reaching agreement even when there are diverse points of view. On the other hand, the Iranian organisations have a different side that makes them less consistent and less coordinated. This could be due to typical Iranian behaviour that affects their core values.

### 9.3 TQM Implementation

Kanji and Yui (1997) suggest that a basic characteristic of an organisation is its culture. Culture has a clear influence on the implementation of TQM. In order to improve quality, therefore, organisations have to be managed differently. This charts show the results of important factors of TQM implementation in the organisations studied in the United Kingdom and in Iran.

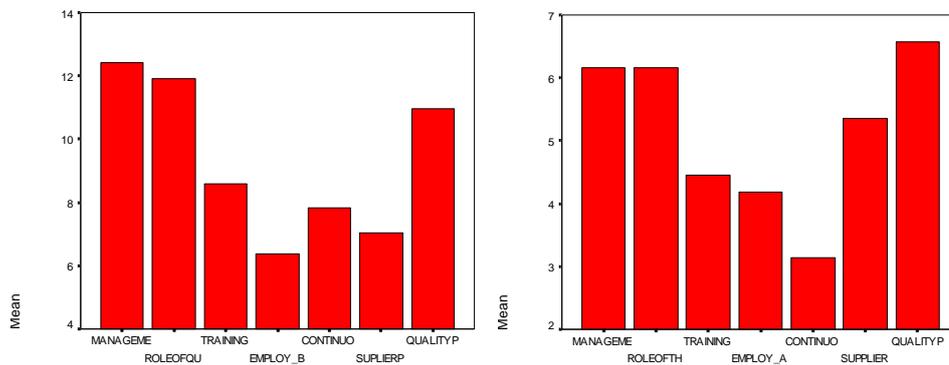


Figure 9.13 TQM implementation in the UK      Figure 9.14 TQM implementation in Iran

The observation of above charts verifies that:

TQM Implementation	the United Kingdom	Iran
Management Commitment	12.4 (High)	6.4 (Low)
Role of Quality Department	12.4 (High)	6 (Low)
Training and Education	8.2 (Average)	4.3 (Low)
Employee Involvement	6.2 (Average)	4 (Low)
Continuous Improvement	7.8 (Average)	3.2 (Low)
Supplier Partnership	7.7 (Average)	5.4 (Low)
Quality Policy	11.5 (High)	6.4 (Low)

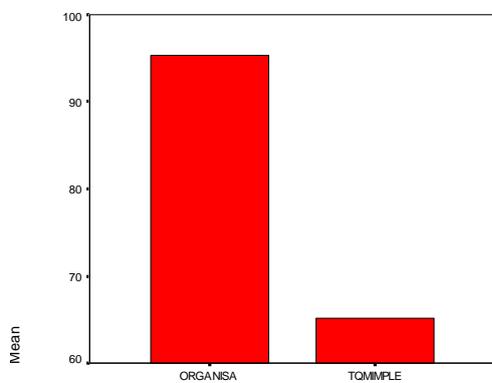
Table 9.1 The result of observations for TQM Implementation

Implementation of TQM in the United Kingdom organisations is fruitful, because of managerial commitment, training and education, employees' involvement, quality control

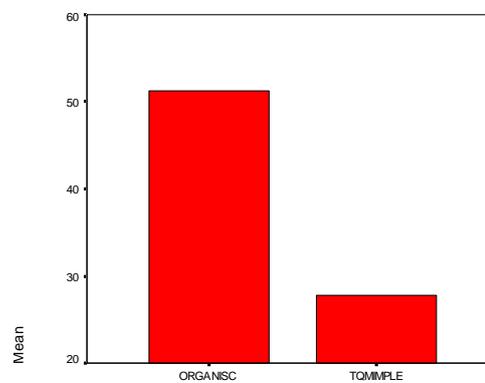
policy and supplier partnership. Last but not the least; continuous improvement of quality in British organisations is much higher than in Iranian organisations.

## 9.4 Result of organisational culture and TQM

The researcher used, adaptability, mission, involvement and consistency to measure organisational culture; in a addition, management commitment, role of quality department, training education, employee involvement, continuous improvement, supplier partnership and quality policy variables were used to measure TQM implementation in the two countries as shown in figure 1 and 2. The research used the Denison (2006) organisational culture model to measure the organisational culture, and as shown in the charts, the United Kingdom organisations used 95% of their productivity in their organisations, according to the Dennison model. Therefore the result of implementation of TQM was much higher than in the Iranian organisations studied.



**Figure 9.15 The United Kingdom**



**Figure 9.16 I.R. Iran**

The charts also verify the importance of organisational culture on the implementation of TQM. Western Europe has tended to adapt the technique of TQM and studied it as model and implemented it in many organisations. The model has also been up graded and modified where necessary. Results from Western Europe in general, like the United Kingdom in particular (as seen on the chart) in this study, indicate that organisational culture is a prime factor in the successful implementation of TQM in organisations.

## 9.5 Discussion on the statistical findings

The analysis of the findings from this research has been classified under two categories: the correlation and regression analysis based on the relationship between organisational culture and implementation and operation of TQM.

### 9.5.1 Correlation analysis

The results from the correlation matrix in Iran reveal that top management support the relationship between role of quality department and quality policies. This was expected since usage of quality department is depends upon the availability of quality policies. Also, the top management believe that the companies in Iran must support the relationship between continuous improvement and supplier partnership. This support the fact employee involvement is the most important factor for achieving higher continues improvement. This shows that top management plays a critical role in promoting quality management implementation in the company, and it is the statistically significant variable affecting all of the other variables. On the other hand, based on the correlation matrix in the UK organisation, was the same result, top management support the quality department and quality policies. This was expected for British companies, as quality department is important element to apply quality policies in organisations. The different result was found in the second highest correlation in the UK, the top management believes that the company in the UK must support the relationship between employee involvements and continues improvement. This element shows the role of employee in implementation and operation of TQM and strong relationship between training education and quality policies. This finding agrees with the Malcolm Baldrige award criteria where top management is considered the driving force for quality management implementation (Wilson and Collier, 2000).

In Iranian organisation, the correlation between top management support and employee involvement was not found to be statistically significant. This is surprising since it is the management's responsibility and commitment to empower employees and involve them in the organisation-wide decision making process (Rao *et al.*, 1999). The same relationship was found between top management support and supplier quality; top management support was not significantly correlated with supplier quality. While previous empirical research validates such a link (Kaynak, 2003), it would be interesting to investigate why top management support is not correlated with employee involvement and supplier quality.

### 9.5.2 Regression analysis

In Iran the result of regression analysis on the effect of organisational culture on TQM implementation shows that organisational culture has a significant effect on TQM implementation in general, but when the researcher tried to test organisational culture variables on the TQM implementation variables separately the result was different. As the figure shows, mission and adaptability has no significant effect on TQM implementation variables in Iran. Involvement has a significant effect on role of the quality department, training education, employee involvement, supplier partnership and quality policy, and there is no significant effect on management commitment and continuous improvement. Consistency has significant on management commitment, role of the quality department, continuous improvement, and supplier partnership and quality policy. As these result shows, in Iran, TQM still is in earlier of adaptation in the organisations. As the result shows, organisations in Iran, still try to adapt the TQM in their organisation. They try to be involved and consistence the TQM implementation in different level of their organisations.

However, in the UK, the result from regression analysis on the effect of organisational culture on TQM implementation shows that organisational culture has a significant effect on TQM implementation in general, but when the researcher tried to test organisational culture variables on the TQM implementation separately the result was different. As the figure shows, mission has a significant effect on only management commitment and continuous improvement, and there is no relationship between this variable with rest of the TQM implementation variables. Adaptability has significant effect on supplier partnership and quality policy, and there is no relationship between adaptability with rest of the TQM implementation in the UK. Involvement has not got any significant effect on the TQM implementation variables and consistency has only significant on supplier partnership. As these result shows, organisational culture has been effected implementation and operation of TQM in the UK.

The findings from the correlation analysis show that there are statistically significant correlations between top management support, education and training, employee involvement, quality policy, and customer focus. However, Taking into account the results of the regression analysis (the final model developed based on previous theory), it is shown

that top management support, quality information availability, quality information usage and employee training are significant predictors of implementation and operation of TQM in Iran. The UK result indicates that internal quality results are achieved by: top management support, quality policy, supplier partnership, training and education, and employee involvement. From EFQM model, the results indicate that leadership, quality policy, training and education, and employee involvement are significant predictors of implementation and operation of TQM.

The above findings imply that to improve the implementation and operation of TQM, the managers in the Iranian need to focus on four elements: top management support, quality policy, training and education, and employee involvement. These three items together explain more than 65% of the variability in the implementation and operation of TQM. The findings indicate that successful implementation and operation of TQM are the effect of improvement of organisational culture. The implication for managers in Iran is that profitability and higher revenues is achieved when implementation and operation of TQM have been improved.

It is interesting to note that customer focus and satisfaction was not a significant predictor if Iranian organisation. Theoretically, one of the main focuses of quality management is customer satisfaction (Dean and Bowen, 1994), and it has been shown that higher customer satisfaction results in higher profitability. No statistically significant relationship between Iranian organisational culture and customer satisfaction and results has been found here. Perhaps the high demand for products from customers and the high bargaining power of Iranian organisation affects the customer-buyer relationship. That needs to be investigated more in detail.

## 9.6 Discussion of the finding and literature

Denison (2006) contends that, in order to understand the ways of working in organisations, understanding the internal working culture, especially those presumptions which the members of organisation consider unimportant, is necessary. The differences between Iran and the UK in terms of cultural dimensions are shown in the previous section. The various presumptions that are formed under the influence of culture and the effect working behaviour of the members of an organisation can be divided into two categories:

- Descriptive presumptions towards national culture
- Prescriptive presumptions towards guidance basics of organisational culture

These two groups of presumptions are different; the first one explains national culture but the second one provides normative guidance that forms the organisational culture. The national cultures of Iran and the UK are different in terms of presumptions related to nature, casualty and controlling the results (desirable and undesirable) that a person experiences in his/her life. Thus people are different; some of them believe that employees are responsible by themselves for the results and behaviours that have occurred.

Another difference that can be found in the organisations studied in Iran and the UK relates to human abilities and flexibility. In Iranian organisation employees' abilities are often supposed to be just unchangeable and limited. Consequently planning solutions and job progress that is done through training is less noticed, while; in the UK organisations tend to emphasize the flexibility, creative and unlimited capacity of human resources. Thus the internal working culture in Iran relies more on applying the theory and pattern of traditional management. But in the UK the theory of human relations and participatory management pattern is relatively more suitable. The complicated and unpredictable environment in Iran has typically developed a time horizon in which long range planning and foresight are less noticed. In predictable environments the time horizon is long and farsighted and encourages planning, while in unpredictable environments parochialism is more desirable so planning is less noticed.

There are significant differences in the normative presumptions, which lead to differences in the implementation and operation of TQM. For example, the organisations in the UK encourage initiative-confronting with a problem: this response reflects the tendency to

masculinity behaviours in a cultural-social environment and a belief in locus of control. But in Iran adopting a passive situation related to problems is more typical. In Iran people are encouraged to change themselves in order to tolerate environmental pressures rather than making changes in the environment. In Iranian organisations the fulfilment of successful behaviours is measured with regard to work or practical activities. The tendency towards an individual achievement style in the UK, which is mixed with masculinity, encourages using practical normalities. Whereas in Iran a severe relationship-oriented frame and nice sentiments and emotions towards others, and also using moralities based on tradition and religious beliefs, are considered as the best methods of judgment on success in individual behaviours and are emphasized, encouraged and extended. In such traditional societies people are not considered to be successful due to entrepreneurship or achieving financial prosperity but they are judged with regard to moral status and supporting other people's interests. The sociability in the organisations in Iran, which consists of adherence, discipline and parental behaviours, shows a tremendous power distance while the nature of collective and prudent relations in the UK shows a relatively small power distance. In Iran the relationships between superior and subordinate are often based on paternal behaviours in which human affinities are worthy and encouraged but this process is completely different in the UK organisations. Finally the behavioural tendency towards the environment in Iran shows the dependence on the environment, which represents irrational or emotional thought. Environmental independence in the UK organisations is a reflection of scientific thought. In Iran it is presumed that basically rules and instructions are unconditional and there are some forces that lead behaviour.

## 9.6 Summary

Furthermore, the results indicate that it is the people side of quality management that has a significant impact on implementation and operation of TQM. Benchmarking, and quality citizenship, were not statistically significant variables in explaining variability in the implementation and operation of TQM. In one aspect, the results confirm the findings by Powel (1995), who empirically showed that the “soft side” of quality, such as top management support and open culture, affects firm performance. Another conclusion is that quality management has not been incorporated in the strategic and long-term view of the firm. Strategic planning for quality was not significantly correlated with implementation and operation of TQM variables. That shows that quality is still regarded as an operational level strategy and that there is much work left to be done to relate it to business-level strategy. There is much work to do to show how to incorporate it into the strategic aspect of Iranian organisations.

Relating these towards the qualitative and quantitative discussion the researcher introduced a suggested model for the successful implementation and operation of TQM in Iranian organisation in chapter 10.

In Iranian organisations following parameters are the main causes of TQM implementation failure.

- Effectiveness of the power distance
- Lack of proper education
- Individualism uncertainty
- Lack of ability of risk taking in the organisation
- Human resources problems
- Lack of motivation for developing employees
- Low salaries at most employments levels

The researcher has also found that team work is the most essential element for successful implementation of TQM to achieve quality at all level of organisations.

All level of organisations includes:

- Employees
- Managers
- Entrepreneurs

Suppliers need to play role in cooperation and commitment for quality achievement.

In Iranian organisations in order to improve quality it is required to change culture. TQM requires a change in organisational culture, methodology, beliefs, and processes. To bring new changes in system, a need to change the organisational culture is a must.

Through such changes implementation of new Ideas for an improve organisation can be feasible.

TQM implementation will be thoroughly fruitful in a collaborative culture which is distinguished by:

- Trust
- Honesty
- Creativeness
- Empowers Individuals
- Braveness and openness
- Ability of risk taking and carrying out the mission of the organisations.

The aim of this was to increase our understanding of the effects of organisation's culture on the implementation and operation of TQM. The researcher has found the dimension of organisational culture can play important role in implementation and operation of TQM. Also, TQM is a management approach to change the culture in order to increase teamwork, organisational learning, innovation, risk taking continues improvement, internal and external customer relationship and supplier partnership. As the researcher found from his study the success of TQM as an organisational change depends on the organisational culture. Successful implementation of TQM needs a significant change in attitude, and value of organisation. However, organisational culture and TQM should be initiated together.

In the next chapter presents the conclusion of the research and contributions to the body of knowledge and a proposed model for TQM implementation within Iranian organisations is presented. Suggestions for future research in the area also included.

## **Chapter Ten (conclusion)**

## 10. Introduction

The key aim of thesis through an exploration of the relationship between organisational culture and TQM implementation in Iran and the UK was to understand important function and the role of organisations in the implementation and operation of TQM. The key objectives were to answer the following questions:

- First Question: What is organisational culture; importance, functions and role?
- Second Question: How TQM could be organised, implemented, formulated and sustained through the Iranian and the UK organisation?
- Third question: Should an organisational culture be initiated before TQM or vice versa? Should they be initiated together? How would we ensure TQM and organisational culture complement one another, instead of overshadowing?
- Fourth question: What are the factors which could influence TQM in countries such as Iran and the UK?

This research covered such issues as how organisation culture variables affected TQM implementation variables in the UK and Iran. The research discovered out the differences in the operation and implementing the TQM in the UK and Iran. The research aimed to relate and evaluate the data collected to the relevant western literature.

Part one of this thesis introduced the literature review, illustrated the context in which the phenomenon of organisational culture and TQM was considered, and discussed different methods and approaches to the research work.

Part two of the research comprised an in-depth analysis of the research findings based on the result from the field work in the UK and Iran.

Part Three presents conclusions from the research by answering the questions posed at the outset of the thesis. A revised conceptual framework of organisational culture and TQM implementation is also proposed.

## 10.2 Conclusions

An important result of this study was to identify the development and influence of organisational culture on the implementation and operation of TQM, in the context of both Iranian and English companies. The following sections meet the research objectives and give the answers to the questions posed at the beginning of the thesis

### **First question, what is organisational culture; importance, functions and role?**

In the most advanced societies in both private and governmental owned organisation, the main concern is welfare and economical progress. The historical, geographical, and political state of that society plays an important role in these interests. Welfare, and a good or excellent economical situation do not usually happen overnight, and if they did, they would probably be transient. Education and training play the most important role in the welfare of society and general development. Most of the time, training without education is not fruitful. The importance of EDUCATION FIRST and TRAINING SECOND is the golden rule, the introduction and implementation of any new ideas, or systems may need years of preparing a foundation based on cultural and psychological education and training. When working in a society with low income and large family members, it is even harder to mentally educate them to follow certain patterns (standards). Where different classes of people exist and apathy and ignorance are in existence, the goal of education and training seems even more difficult to achieve.

In different societies, the meaning of quality differs. Considering societies where the supply of end products is less than the demand, people tend to pay little attention to quality. Where as in the opposite situation consumers not only look for quality of the products but the products should meet:

- Customer need
- Safety regulation
- Ease of operation
- Environmental friendliness
- Meet the budget price (Piece Competitive)

So in reality, to use or apply the correct tools as for quality (TQM) one has to differentiate, WHERE and WHEN these strategies can be implemented. The approach of quality control (QC) or implementation of TQM can have totally different meanings in different societies. In one the employees might think that these are the managerial means of disciplinary control in another they may really believe in the supply of quality end products.

The importance of the organisational culture is that it can increase the efficiency and effectiveness of an organisation.

Organisational culture is one of the important factors in TQM implementation programs. The success of TQM as an organisational change mechanism depends on organisational culture. Successful implementation of TQM needs strong values, attitudes and the appropriate culture of organisation.

**Second question: How TQM could be organised, implemented, formulated and sustained through the Iranian and the UK organisation?**

Organisational culture has an effect on the successful TQM implementation. For TQM programs to be successful in organisations, the following points need to be considered and developed.

- Management commitment.
- Employee involvement
- Organisational learning
- Creating change
- Team working
- Risk taking,
- Continuous improvement,
- Suppliers' partnership,
- Monitoring and evaluation of quality

For TQM to be successful, an effective quality organisation has to be established by communication channels and a strategic plan for guide lining and execution. Strategies and processes have to be integrated within a quality culture.

In most organisations there are models through which tasks are adapted and done. In TQM these models are stressed to be more effective in providing customers with products and services of increasing value at lower costs. The focus in TQM is on quality of products and services. To attain higher quality processes, the method of beginning is the most important, and it is achieved by using the scientific approach. Models are explained and discussed with flow charts, problems are underlined, the problem areas are notified through effective research and new fool-proofed systems are developed. Processes are improved by using statistical control charts and variation charts. A quality management and support committee is a key element in successfully implementing TQM. In the implementation of TQM, the procedure development and documentation are essential for improvement to be achieved.

The final chapter of this study provides information about the success of TQM and barriers to its successful implementation in a number of Iranian organisations. The barriers to successful implementation of TQM in this survey included lack of senior management commitment and involvement, instability of senior managers, inability to change organisational culture, inflexibility of the organisational culture toward quality changes, inflexibility of organisation toward environment and technological change, incorrect planning, lack of continuous education and training for employees and managers, inadequate knowledge or understanding of TQM philosophy, poor team work and participation, inappropriate evaluation of team works, poor accessibility to data and results, and lack of attention to the needs of internal and external customers.

**Third question: Should an organisational culture be initiated before TQM or vice versa? Should they be initiated together? How would we ensure TQM and organisational culture s complements one another, instead of overshadowing?**

An appropriate organisational culture and TQM should be initiated together. In order to achieve this, this study has determined different approaches as follows:

TQM is a description of the culture, attitude and organization of a company that aims to provide, and continue to provide, its customers with products and services that satisfy their needs. However, the strong organisational culture requires, risk taking, innovation, learning collectivism, stability, flexibility, long term orientation, attention to details creativity and uncertainty avoidance, in all level of the organisation's operations, with things being done right at the first time. There are four interrelated classifications of organizational change: structure of the organisation (or "functional change"), organisation process, organisation values, and power distribution in the organisation.

First, in the Iranian organisations studied, continuous improvement, training and education and supplier partnerships were poorly developed, and also Iranian organisations require more long-term strategic planning for the successful implementation of TQM.

The researcher found through the interviews and questionnaire that there are often obstacles to the successful operation of TQM.

In the Iranian organisation the two most important barriers were:

- Lack of planning
- Lack of vision

These barriers affected the strategy formation the goals and objectives, and mission development of the organisations. Relating these barriers towards the environment, changes in technical approach and in quality services provisions undermined the performance of the organisation.

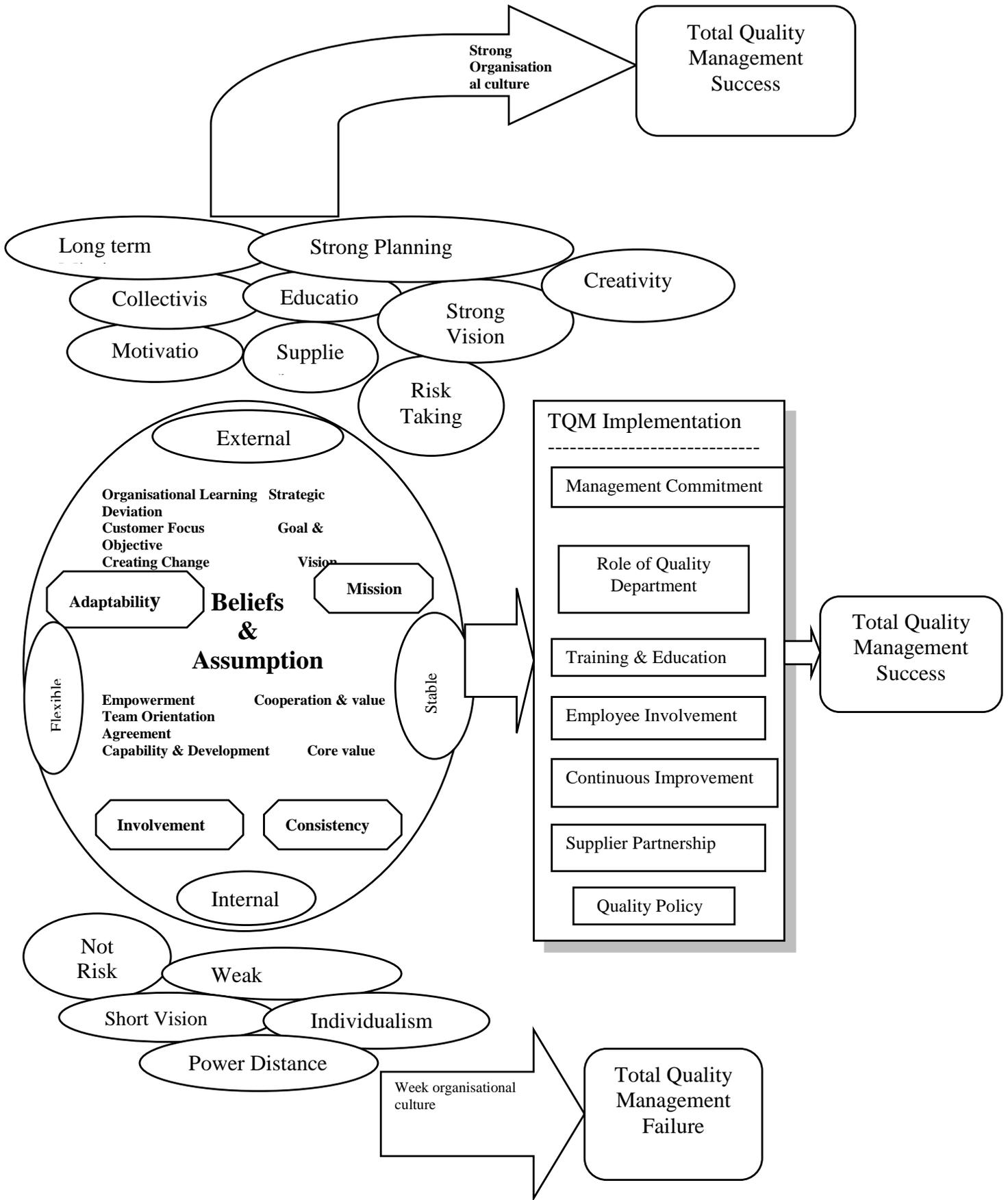


Figure 10.1 Relationship between organisational culture and TQM

In the Iranian organisations studied the following parameters are the main causes of TQM implementation failure.

- High power distance
- Lack of proper education
- Individualism uncertainty
- Lack of ability of risk taking in the organisation
- Human resources problems
- Lack of motivation for developing employees
- Low salaries at most employments levels

The researcher also found that team work is the most essential element for the successful implementation of TQM to achieve quality at all level of organisations.

All level of organisations includes:

- Employees
- Managers
- Entrepreneurs

Suppliers need to play a role in cooperation and commitment for quality achievement.

In Iranian organisations in order to improve quality it is necessary to change culture. TQM requires a change in organisational culture, methodology, beliefs, and processes. To bring new changes in the system, a requirement to change the organisational culture is a must.

Through such changes implementation of new ideas for an improved organisation can be feasible.

TQM implementation will be more fruitful in a collaborative culture which is distinguished by:

- Trust

- Honesty
- Creativeness
- Empowers Individuals
- Braveness and openness
- Ability of risk taking and carrying out the mission of the organisations.

One aim of this research was to increase our understanding of the effects of an organisation's culture on the implementation and operation of TQM. The researcher has found the dimension of organisational culture can play a very important role in the implementation and operation of TQM. Also, TQM is a management approach to change the culture in order to increase teamwork, organisational learning, innovation, risk taking continuous improvement, internal and external customer relationships and supplier partnerships. As the researcher found from his study the success of TQM as an organisational change strategy depends on the organisational culture. Successful implementation of TQM needs a significant change in the attitudes, and values of organisations. However, developing the right organisational culture and TQM should be initiated together.

#### **Fourth Question: What are the factors which could influence TQM in countries such as Iran and the UK?**

The significant contribution of this research was to find out the relationship between organisational culture and TQM implementation in the UK and Iran. As the results of this research have shown that TQM stage in Iranian organisations had the most effects on process management commitment, focus on customer satisfaction, employee involvement and quality policy. The research has also identified that cultural fit is the most important element in ensuring the successful implementation of TQM in Iranian organisations.

For an effective and highly efficient model of quality management:

- Self-assessment
- Continuous monitoring
- Evaluation of quality activities by employees

Providing good feedback is one of the most important factors in the success of TQM.

In this research, the main problem areas were identified as follows:

- Lack of education and training,
- Lack of continuous quality policy,
- Lack of feed-back from customers.

This research provided evidence concerning the success of TQM and barriers to its successful implementation and its relationship with organisational culture in a number of Iranian organisations. Several critical factors are identified as necessary for TQM to be successful. These include the support and commitment of manager, continues improvement, quality policy, quality planning, mission, vision, values and quality objective of the organisation, training and education, effective, employees empowerment, employees commitment. The following graphs showed how organisations in Iran and the UK had effected the implementation and operation of TQM.

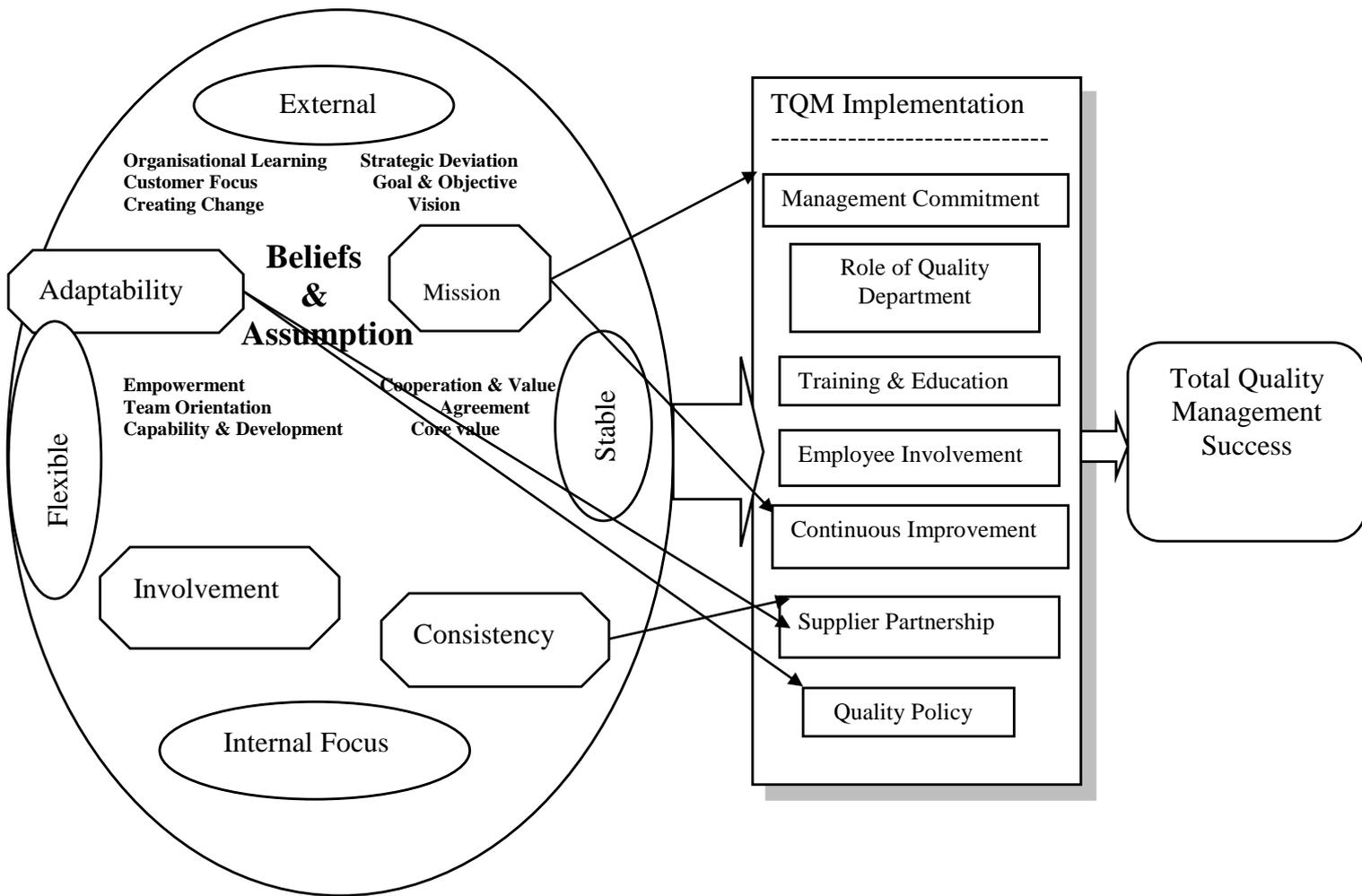


Figure 10.2 Shows the concept developed from regression analysis on the effect of organisational culture on TQM implementation in the UK

The result of the data analysis in the UK shows that:

- **Organisational culture has a significant effect on TQM implementation.**

However, when the researcher tested each individual organisational culture variables on the TQM implementation separately, the results were different. As the figure 10.1 shows;

- **Mission has a significant effect on management commitment and continuous improvement.**
- **Adaptability has significant effect on supplier partnership and quality policy.**
- **Consistency has significant effect on supplier partnership.**

As these result showed, TQM is perfectly adapted in the organisations studied in the United Kingdom. The mission of the UK organisations is continually evolving and improving. This means they have achieved a higher level of the quality in their organisations. British organisations try to be conscientious and adaptable with supplier partnerships, and try to adapt different and new quality policies in their organisations. That shows how important the rule of supplier partnerships and quality policy in their organisations is.

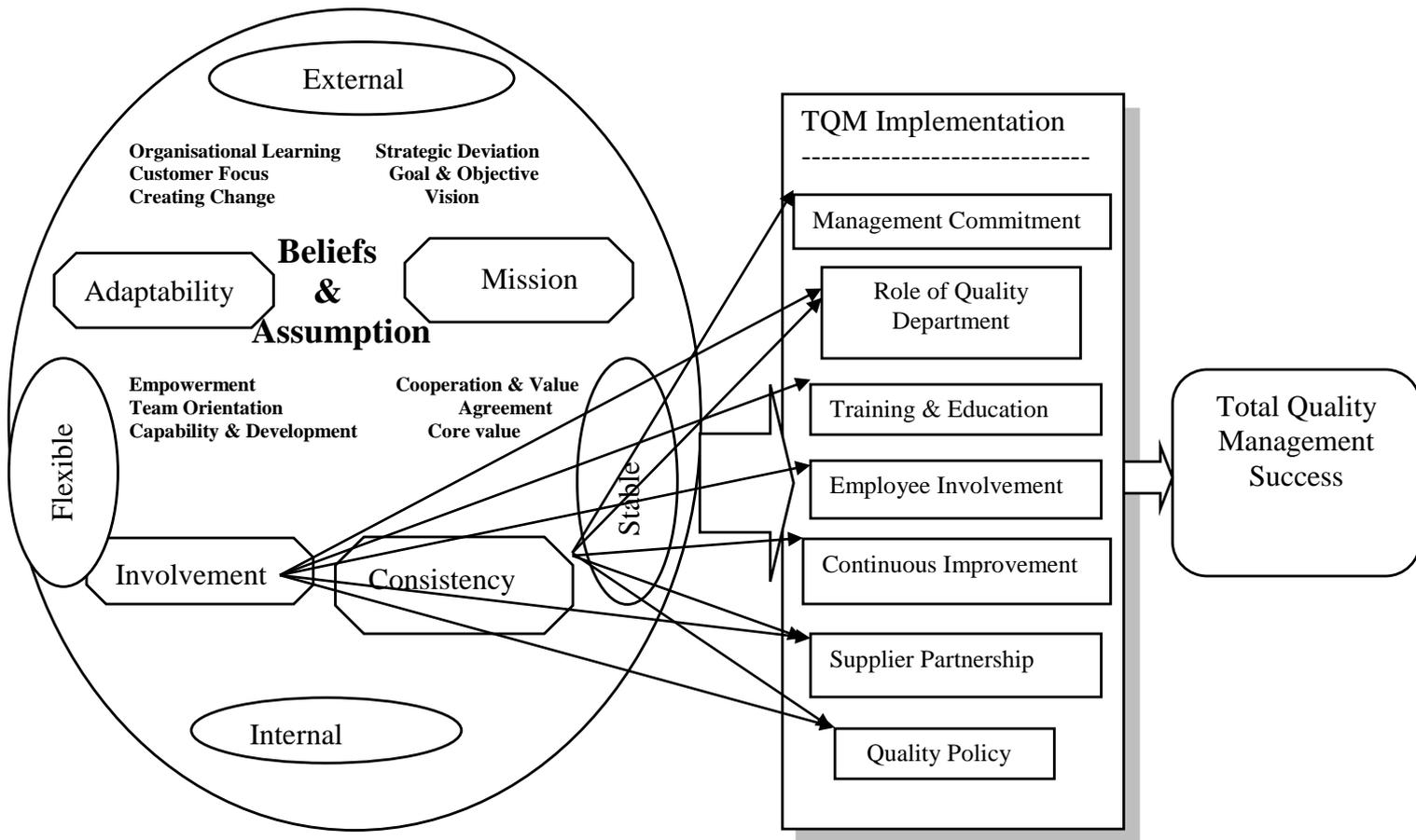


Figure 10.3 Shows the concept develops from regression analysis on the effect of organisational culture on TQM implementation in Iran

As the researcher evaluated his analysis the results showed that:

- **Organisational culture has a significant effect on TQM Implementation.**

When the researcher tried to test each individual organisational culture variables on the TQM implementation separately the results were different. As figure 10.2 shows;

- **Involvement has a significant effect on role of the quality department, training education, employee involvement, supplier partnership and quality policy.**
- **Consistency has a significant effect on management commitment, role of the quality department, continuous improvement, and quality policy and supplier partnership.**

Models for successful TQM implementations are still in an earlier stage of adaptation to the Iranian context. Iranian organisations are endorsing to engage their organisation to TQM implementation at all levels of their organisations.

### 10.3. Research Contributions to knowledge

This study explained the conceptual difference between implementation and operation of TQM in selected organisations in Iran and the UK. The findings of this study draw attention to the importance of differentiating between the concept of national culture and organisational culture dimensions in Iran and the UK.

Following a critical review of the literature, discussion, it became clear that the theories and measures extended in the western industrialized world such as the UK will face serious limitations when implemented in the situation of organisations in the developing world such as Iran. For example, management theories which have been formed in advanced countries are based on some assumptions that are only appropriate for people in these countries. So, in order to compose the theories of total quality management, the most necessary thing is to understand environmental factors such as cultural, economic, political, legal and especially national culture, the way that they affect the behaviour of people and the performance of organisations. What is needed is developing management theories and functions based on local situations and conditions, and the cultural and social forces of each country.

Ignoring each of the environmental elements in the long term and persisting in uncritically applying the theories and methods of imported management tools such as TQM, without doubt will cause harmful effects on organisations' performance. It is clear that achieving the required ability for the modification and reformation of successful management patterns, whether in Iran or the UK, and using them with regard to environmental conditions requires a careful appraisal of the theories and methods that often originate from western countries. This is particularly the case when applying these theories developing countries and trying to raise programs of management all over the world. So any effort which is made to apply management tools and philosophies such as TQM necessarily must be done alongside an evaluation of the theoretical basis and effective methods of western management in terms of their direct applicability to a particular national culture.

## 10.4 Recommendation

In conclusion, this research provides information about the success of TQM and barriers to its successful implementation and its relationship with national and organisational culture in Iran. Based upon of this research, the researcher recommends what Iranian organisations should do to successfully implement and sustain TQM. The researcher has made two different tables. The first table summarize the current situation in Iran and the UK.

TQM $\Rightarrow$ Organisational Culture $\Downarrow$	Management Commitment	Role of Quality Department	Trading and Education	Employee Involvement	Continuous Improvement	Supplier Partnership	Quality Policy
<b>IRAN</b>							
<b>Adaptability</b>							
<b>Mission</b>							
<b>Involvement</b>		√	√	√		√	√
<b>Consistency</b>	√	√			√	√	√
<b>UK</b>							
<b>Adaptability</b>						√	√
<b>Mission</b>	√				√		
<b>Involvement</b>							
<b>Consistency</b>						√	

**Table 10.1 The current situation of organisation culture in the UK and Iran on implementation and operation of TQM**

The discussion of this table have been categorise in 4 parts: employee involvement, supplier partnership, quality policy and training and education.

Employee involvement:

In TQM philosophy there are two types of customers: internal and external. Iranian companies should motivate their employees, who are their internal customers. In particular, if the employees are asked for their suggestions and ideas and if these ideas and suggestion are applied to operation, the employee will be more highly motivated, and they will assume greater responsibility for their customer satisfaction.

Supplier partnership:

Purchasing is a key element in quality systems. The quality of the end product is directly related to the quality of raw materials and equipment supplied by supplier. Choosing and accessing the right supplier in Iranian organisation, is one very important element for Iranian organisations to think about.

Quality policy:

The implementation of TQM in the Iranian organisation should be started at the top management level. The support and leadership of top management is very important in the initial stage, just as in all other stages. As was discussed in the literature review, continuous quality improvement can be realized through the training and education of managers. Quality has to be considered at all level and stages of Iranian organisations.

Training and Education:

Iranian organisations should develop customized training plans for management, engineers, technicians, staff, support personnel, and labour. The training effort in Iranian organisation should include instructions in the basics of TQM: cause and effect analysis, team problem solving, interpersonal communication and interaction, and cost and quality.

Table 2 reviews the situation of Iranian and the UK organisation on implementation and operation of TQM based on this research

TQM 	Management Commitment	Role of Quality Department	Trading and Education	Employee Involvement	Continuous Improvement	Supplier Partnership	Quality Policy
Organisational Culture 							
<b>IRAN</b>							
<b>Adaptability</b>						√	√
<b>Mission</b>					√		
<b>Involvement</b>		√	√	√		√	√
<b>Consistency</b>	√	√	√		√	√	√

**Table 10.2 The suggestion table regarding to implementing and operating TQM in Iranian organisational culture**

There are significant differences between the way that TQM is being implemented in Iran and the UK. Some may due to cultural differences, while other may be the result of different managerial style as we can see in table 10.1. The comparative results between the UK and Iran in this study, will suggest a few points to increase the quality of implementation and

operation in Iranian organisation as we see in the table 10.2. The suggested points are as follows:

- The top management in Iranian organisation should support quality improvement and think of this as key part of their mission. If they do that, employees will understand the sensitivity and importance of TQM.
- Quality policy should not simply involve consistency. The quality policy should be adaptable within the organisation.
- Human factors should not be in the corner. When the TQM philosophy need to be applied in the organisation, the human resource has the highest potential for effectively applying and improving TQM philosophy.
- Iranian managers should determine the training and education needs of employees systematically and, in order to conduct an effective training programme, they should establish this procedure and broaden their effort as necessary within the procedure.

Improving the quality and supply of end products can be very expensive. It requires an excellent strategy and involves brave managers who know and believe in themselves and are capable of using and implementing these strategies to their specify organisation. And moreover are capable of undertaking self sacrifices.

All the methods and strategies have to be studied by the manger and in all cases have to be very well understood, before the implementation process takes place. These strategies and methods have usually been formulated and tested and examined in western societies. That is based on many fundamentals and methodologies. These strategies, where applicable, need to be reconstructed (localised), so that the essence of strategies are well understood and applied.

In Iran, organisations have to pay more attention to the fast growing needs of high quality end-products. With the importation of goods from China (now) and from all over the world in future (WTO), it is essential to train and educate work forces nationwide while the time and capital is available.

It is recommended that governmental owned, as well as private organisations must focus highly on receiving feedback from the customers. Since quality can only be achieved and

progress on knowing exactly what is most needed from the enduser. Hence the allocation of time and budget for this purpose is not a wasted strategy.

Iran for the last fifty years has always been an oil dependent country. In the past, one of the strategies of Government was to employ many people to overcome an unemployment crisis. In doing so the degree or level of **education / inelegance** was not very important, at present the ratio of NGO'S to GO's in Iran is still less than one. Therefore education, training, and then concept of quality have now to be constantly the main objectives of organisations in Iran. In view of this, the successful implementation of TQM can and must be reached.

As mentioned already in this chapter the appropriate cultural adaptation is one of the most important parameters for successful implementation of TQM.

## 10.5 Research limitations and suggestions for research

There are some limitations to this study that must be mentioned. Above all, the sample size (50 companies in Iran and 40 companies in the UK) was relatively small. This sample size prevents the researcher from performing more complex analysis on the data set. It is highly recommended that any future research should be conducted with a larger sample size. While production and exploration constitutes a considerable portion of the industry in Iran, the results need to take account of other sections of industry. Accordingly, more research is needed to specifically apply and test the results in other sectors, such as petrochemicals, transportation, trading and services.

It is recommended that, if resources permit the same study be conducted with a larger and more varied sample size. Due to the relatively small sample size in this study, it is sometimes difficult to test the significance of some of the variables. With a larger sample size, it will also be practical to use more advanced statistical tools, such as structural equation modelling and path analysis. The researcher could not use these techniques because of the small sample size. In future investigations of the perceptions of managers in Iran and the UK regarding customer satisfaction, some qualitative studies are also recommended with customers of the organisations in both countries.

It is recommended that future research should be conducted within similar cultures to Iran to explore the significance of organisational culture on the successful implementation and operation of TQM in Middle East countries more generally.

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## **Appendix 1**

Table 1 shows the results of the regression analysis on national culture as the dependent variables (Iran).

**Variables Entered/Removed (b)**

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

Dependent Variable: Organisational Culture

**Table 1 Regression analysis on organisational culture**

Tables 2, 3, 4, and 5 show the results of the regression analysis on organisational culture (Mission, adaptability, involvement and consistency) as the dependent variables (Iran).

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: INVOLVEMENT

**Table 2 Variables entered/removed (a)**

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: CONSISTENCY

**Table 3 Variable entered/removed (b)**

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: ADAPTABILITY

**Table 4 Variables entered/removed (c)**

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: MISSION

**Table 5 Variables entered/removed (d)**

Table 6 shows the results of the regression analysis on TQM implementation as the dependent variables (Iran).

Model	Variables Entered	Variables Removed	Method
1	Organisational Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: TQM implementation

**Table 6 Variables Entered/Removed (Organisational Culture)**

Table 7, 8, 9, 10, 11, 12 and 13 show the results of the regression analysis on TQM implementation factors (management commitment, role of the quality department, training and education, employee involvement, continuous improvement supplier partnership, quality policies) as the dependent variables (Iran).

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Management Commitment

**Table 7 Variables Entered/Removed (Management Commitment)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Role of the Quality Dep

**Table 8 Variables Entered/Removed (Role of Quality Department)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Training Education

**Table 9 Variables Entered/Removed (Training Education)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Employee Involvement

**Table 10 Variable Entered/Removed (Employee Involvement)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Continuous Improvement

**Table 11 Variables Entered/Removed (Continuous Improvement)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Supplier Partnership

**Table 12 Variables Entered/Removed (Supplier Partnership)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, INVOLVEMENT, CONSISTENCY(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Quality Policies

**Table 13 Variable Entered/Removed (Quality Policy)**

Table 14 shows the results of the regression analysis on organisational culture as the dependent variables (The UK).

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: ORGANISATIONAL CULTURE

**Table 14 Variables Entered/Removed (National Culture)**

Tables 15, 16, 17 and 18 show the results of the regression analysis on organisational culture (Mission, adaptability, involvement and consistency) as the dependent variables (The UK).

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: INVOLVEMENT

**Table 15 Variables Entered/Removed (Involvement)**

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: CONSISTENCY

**Table 16 Variables Entered/Removed (Consistency)**

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: ADAPTABILITY

**Table 17 Variables Entered/Removed (Adaptability)**

Model	Variables Entered	Variables Removed	Method
1	National Culture(a)	.	Enter

a All requested variables entered.

b Dependent Variable: MISSION

**Table 18 Variables Entered/Removed (Mission)**

Table 19 shows the results of the regression analysis on TQM implementation as the dependent variables (The UK).

Model	Variables Entered	Variables Removed	Method
1	ORGANISATIONALCULTURE(a)	.	Enter

a All requested variables entered.

b Dependent Variable: TQMIMPLEMENTATION

**Table 19 Variables Entered/Removed (TQM Implementation)**

Table 20, 21, 22, 23, 24, 25 and 26 show the results of the regression analysis on TQM implementation factors (management commitment, role of the quality department, training and education, employee involvement, continuous improvement supplier partnership, quality policies) as the dependent variables.

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, CONSISTENCY, INVOLVEMENT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Management Commitment

**Table 20 Variables Entered/Removed (Management Commitment)**

**Table 8.34 Variables Entered/Removed (b)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, CONSISTENCY, INVOLVEMENT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Role of Quality Dep

**Table 21 Variables Entered/Removed (Role of Quality Dep)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, CONSISTENCY, INVOLVEMENT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Training Education

**Table 22 Variables Entered/Removed (Training & Education)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, CONSISTENCY, INVOLVEMENT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Employee Involvement

**Table 23 Variable Entered/Removed (Employee Involvement)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, CONSISTENCY, INVOLVEMENT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Continuous Improvement

**Table 24 Variables Entered/Removed (Continuous Improvement)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, CONSISTENCY, INVOLVEMENT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Supplier Partnership

**Table 25 Variables Entered/Removed (Supplier Partnership)**

Model	Variables Entered	Variables Removed	Method
1	MISSION, ADAPTABILITY, CONSISTENCY, INVOLVEMENT(a)	.	Enter

a All requested variables entered.

b Dependent Variable: Quality Policy

Table 26 Variables Entered/Removed (Quality Policy)

## **Appendix 2**

تاریخ :

نام شرکت:

آدرس:

تلفن تماس:

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1) ساختار شرکت شما بر چه اساسی است؟ (انتخاب بیش از یک گزینه آزاد میباشد)

الف) شرکت بازرگانی  
ب) شرکت سهامی خاص

ج) شرکت سهامی عام  
د) تعاونی

ه) دولتی  
و) خصوصی

2) برای چه مدت شرکت شما مشغول به کار می باشد؟

الف) 1 تا 5 سال

ب) 6 تا 10 سال

ج) 11 تا 15 سال

د) 16 تا 20 سال

ه) بیش از 20 سال

3) تعداد کارمندان مشغول به کار در شرکت شما؟

الف) بین 1 تا 500 نفر

ب) بین 501 تا 2000 نفر

ج) بیش از 2000

3-الف) از این تعداد چه مقدار تمام وقت و چه مقدار پاره وقت هستند؟

4) لطفا کارمندان خودتان را بر اساس سن تقسیم بندی کنید؟

الف) 20-30 -----نفر

ب) 31-40 -----نفر

ج) بالای 40 -----نفر

5) لطفا محصولات نهایی شرکت را نام ببرید؟

6) كاميك از توضيحات زير شرح توليدات شما ميباشد؟ (انتخاب بيش از يك گزينه ازاد ميباشد)

الف) تك محصولي (ب) توليدات انبوه (ج) پروسه (د) موارد ديگر

7) محصولات شما بر اساس چه نوع سفارشي ساخته ميشود؟ (انتخاب بيش از يك گزينه ازاد ميباشد)

الف) محصولات ساخته شده و در انبار نگهداري ميشود  
 ب) محصولاتي که بر اساس سفارش مشتري ساخته ميشود  
 ج) محصولات شرکت به صورت مونتاژ مي باشد  
 د) چيزهاي ديگر

8) لطفا بر اساس نوع توليداتان مشخص کنيد شرکت شما در کدام قسمت اين جدول قرار ميگيرد؟

پيچيدگي محصولات		کم
زیاد	محصولاتي که ارزش بالايي دارند مانند هواپيما و کشتي	محصولاتي که بر اساس مد روز مي باشد محصولاتي که داراي مواد اوليه زيادي مي باشد و طول عمر کوتاهي را برخوردار مي باشد
عدم اطمینان	محصولات مصرف کننده با دوام و ارزش بالا	کالاهاي مصرفي ارزان با توليدات بالا اين کالاها خيلي ساده مي باشند ولي سرمايه گزارتي سنگيني را نيز دارند
کم		

پرسشنامه				
خیلی کم <-----> خیلی زیاد				
				الف-1-1) کارکنان جرات مخالفت با مدیرانشان را ندارند
				الف-1-2) رفتار مدیر با کارکنان مانند رفتار پدر با فرزندانش است
				الف-2-1) قوانین شرکت غیر قابل تغییر است (حتی اگر کارکنان فکر کنند به نفع شرکت است)
				الف-2-2) قرارداد کارکنان یکساله میباشد و قرارداد بیشتر کارکنان هر سال تمدید میشود
				الف-2-3) کارکنان احساس نگرانی در محیط کار دارند
				الف-3-1) بیشتر مردم قابل اعتمادند
				الف-3-2) بیشتر کارکنان زمان کافی برای پرداختن به خانواده خود را دارند
				الف-3-3) بیشتر کارکنان رابطه خوبی با رئیس خود دارند
				الف-3-4) بیشتر کارکنان در محیط کار خود احساس امنیت می کنند
				الف-3-5) رئیس قبل از تصمیم گیری با کارکنان خود مشورت میکند
				الف-3-6) کارکنان در محیط کار فرصت کافی برای کمک به یکدیگر را دارند
				الف-3-7) کارکنان با انجام دادن کار خوب مورد تشویق قرار میگیرند
				الف-3-8) کارکنان مورد تعلیمات لازم برای انجام کار قرار میگیرند
				الف-3-9) کارکنان در محیط زندگی خود از امکانات لازم برخوردار میباشند

خیلی کم <-----> خیلی زیاد				
				ب-1-1-1) بیشتر کارکنان در محیط کار احساس میکنند که در کارها باهم همکاری می کنند
				ب-1-1-2) تصمیم گیریها در این سازمان در قسمتهایی از سازمان که اطلاعات به اندازه کافی وجود دارد گرفته میشود
				ب-1-1-3) در این سازمان بیشتر کارکنان بر این باورند که روند کاری سازمان اثر مثبت دارد
				ب-1-1-4) در برنامه ریزی سازمان همه نیروی کاری مورد استفاده قرار میگیرد
				ب-1-2-1) در این سازمان کارکنان مانند یک تیم باهم همکاری میکنند
				ب-1-2-2) در این سازمان بدون هیچ اجباری باهم دیگر همکاری میکنند
				ب-1-2-3) در این سازمان در تصمیم گیریهای مهم همه افراد سازمان با یکدیگر مشورت میکنند
				ب-1-3-1) در این سازمان اولویت بر پیشرفت و رشد سازمان می باشد
				ب-1-3-2) در این سازمان مدیران از تمام توانایی کارمندان خود استفاده میکنند
				ب-1-3-3) مهمترین مزایا در این سازمان توانایی رقابتی کارکنان این سازمان می باشد
				ب-1-3-4) بیشترین دلیل مشکلات در این سازمان به دلیل ناتوانایی کارکنان این سازمان می باشد
				ب-1-2-1) باورهای اولیه پایه های اصلی این سازمان را تشکیل داده است

خیلی کم <-----> خیلی زیاد				
				ب-2-1-2) در این سازمان کارکنان در مورد تاریخ گذشته این شرکت با افتخار صحبت می کنند
				ب-2-1-3) کار کردن در این سازمان برای کارکنان باعث افتخار است
				ب-2-2-1) در این سازمان انجام دادن کارها قابل پیش بینی است
				ب-2-2-2) کارکنان در قسمتهای مختلف این سازمان دارای دید مشترکی هستند
				ب-2-2-3) برای انجام پروژه های مختلف هماهنگی های مشترکی بین قسمتهای مختلف سازمان انجام می گیرد
				ب-2-2-4) اهداف سازمانی با طبقات مختلف سازمان تناسب دارد
				ب-3-1-1) برنامه های سازمانی برای انجام پروژه های مختلف برآحتی تغییر می کند
				ب-3-1-2) معمولا در این سازمان تغییرات با مشورت انجام می شود
				ب-3-1-3) تغییرات در این سازمان بسیار سریع و فوری می باشد
				ب-3-1-4) در این سازمان با آگاه بودن نقاط ضعف و قوت رقبا با تغییرات مناسب پاسخ خوبی به آنها داده می شود
				ب-3-2-1) در این سازمان یک سری تغییرات بر اساس پیشنهاد مشتریان می باشد
				ب-3-2-2) در این سازمان با اطلاعاتی که از مشتریان گرفته می شود مستقیما بر تصمیم مدیران اثر می گذارد

خیلی کم -----< خیلی زیاد				
				ب-3-2-3) در این سازمان کارکنان آگاهی کامل به تقاضای مشتریان خود دارند
				ب-3-2-4) در این سازمان مدیران می خواهند که کارکنانشان با مصرف کننده و مشتریان خود تماس مستقیم داشته باشند
				ب-3-3-1) در این سازمان مدیران فعال بدنبال عقیده تازه می باشند
				ب-3-3-2) در این سازمان کارکنانی که عقیده شان بکار نیامد مورد بازخواست قرار نمی گیرند
				ب-3-3-3) در این سازمان یادگیری مهمترین هدف می باشد
				ب-4-1-1) این سازمان اهداف بلندمدت دارد
				ب-4-1-2) در این سازمان روشها و کارها برای رسیدن به اهداف سازمانی کاملاً مشخص شده است
				ب-4-1-3) این سازمان دارای استراتژی مشخصی برای آینده است
				ب-4-2-1) در این سازمان اهداف سازمانی در تمام مراحل مختلف سازمان مورد توافق است
				ب-4-2-2) در این سازمان کارکنان آگاه به برنامه هایی هستند که سازمان را به موفقیت های بلند مدت میرساند
				ب-4-3-1) در این سازمان دیدگاه های بلندمدت وجود دارد
				ب-4-3-2) این سازمان برای کارکنان خود ایجاد انگیزه می کند
				ب-4-3-3) این سازمان قادر به رسیدن اهداف کوتاه مدت خود است بدون تغییری در اهداف بلندمدتش

خیلی کم ----- < خیلی زیاد				
				ج-1-1) در این سازمان وظیفه مدیریت رشد سیستم های مدیریتی و اجرایی مدیریت کردن عوامل کیفیتی است
				ج-1-2) دیدگاه مدیریت اجرایی هماهنگ کردن کیفیت با رضایت مشتری است
				ج-1-3) در این سازمان تعریف ارزش کیفیت روشن است و ارزش کیفیت مانند ارتباطی است میان انجام دادن صحیح کارها برای رسیدن به اهداف سازمانی
				ج-1-4) ساختار مدیریت کیفیت این سازمان بشکلی قرار گرفته است که این سازمان را به یک سازمان کیفیتی تغییر می دهد
				ج-1-5) تمام واحدهای مختلف این سازمان می دانند که هر فرایند دارای مشتری و عرضه کننده داخلی می باشد
				ج-1-6) تمام نیروی کار در این سازمان آگاهند که آنها متعهد به رسیدن ارزش و اهداف کیفیتی سازمان می باشند
				ج-1-7) استفاده از برنامه و روشهای اندازه گیری مختلف برای حمایت کارکنان در انجام دادن کارهای کیفیتی
				ج-1-8) این سازمان دارای سیستمی است که موفقیتهای فردی و گروهی را مجزا می کند
				ج-1-9) آموزشهای لازم کارکنان برای رشد مهارتهای ارتباطی و مهارتهای رهبری
				ج-1-10) آموزش لازم کارکنان برای تشخیص مشکلات و داشتن مهارت لازم برای حل کردن مشکلات
				ج-1-11) این سازمان دارای سیستم بازنگری و تحلیلی میباشد که اثر مستقیم و غیر مستقیم بر ارزشهای افزوده و رضایت مشتری دارد
				ج-1-12) در این سازمان حل مشکلات و ادامه انجام فرایندها مبنی بر حقایق و سیستمهای تجزیه و تحلیلی میباشد

خیلی کم <-----> خیلی زیاد				
				ج-1-14) در این سازمان برای حل مشکلات کارهای گروهی مورد استفاده قرار میگیرد
				ج-1-15) این سازمان دارای هزینه های فرایندهای کیفیتی بخاطر انجام ضایعات میباشد کارهای دوباره و
				ج-1-16) این سازمان دارای سیستمهای اداری کیفیتی میباشد
				ج-1-17) این سازمان دارای روابط بلندمدت با عرضه کننده های اصلی میباشد
				ج-1-18) این سازمان دارای قابلیت تعیین نیازهای مشتری و انجام فرایندهای مختلف برای رضایت مشتری می باشد
				ج-1-19) این سازمان از بازده تحقیقات بر روی مشتریانش برای جلب رضایت آنها استفاده میکند
				ج-1-20) در این سازمان کارکنانی موفق هستند که مهمترین نگرانی آنها جلب رضایت مشتریان سازمان است
				ج-1-21) در این سازمان تمرکز مدیران عالی بر روی خدمات و ارائه کیفیت است
				ج-1-22) در این سازمان تمام کارکنان آگاه به نیازهای مشتریان هستند
				ج-1-23) در این سازمان کیفیت و خدمات مهمتر از فروش هستند
				ج-1-24) در این سازمان دایره کیفیت به اسانی با مدیران عالی دسترسی پیدا میکنند
				د-1-1) در این سازمان عملکرد کیفیت بر عهده رده های بالایی سازمان میباشد
				د-1-2) در این سازمان رئیس هر بخش مسئول کیفیت هم می باشد
				د-1-3) در این سازمان اهداف کیفیتی در رده های مختلف مشخص می باشد

خیلی کم <-----> خیلی زیاد				
				د-2-1) در این سازمان دایره کیفیت قابل رویت است
				د-2-2) در این سازمان دایره کیفیت تاثیر مستقیم بر رشد کیفیت دارد
				د-2-3) در این سازمان نتایج اندازه گیری کیفیت بر روی کارمندان اثر میگذارد
				د-3-1) در این سازمان برنامه هایی برای توسعه کارهای تیمی میان کارمندان برگزار میشود
				د-3-2) در این سازمان تعلیمات لازم، در مورد کیفیت جامع به مدیران سرپرستان و کارکنان داده میشود
				د-3-3) در این سازمان به کارکنان در مورد خواندن نمودارها آموزش داده میشود
				د-4-1) در این سازمان کارکنان بر اساس عملکرد کاریشان مورد تشخیص قرار میگیرند
				د-4-2) در این سازمان مدیران رده بالا اجازه تصمیم گیری به مدیران رده پائین میدهند
				د-5-1) در این سازمان در جلسات مدیران بالایی مشکلات کیفیتی بررسی میشود
				د-5-2) در این سازمان نتایج رشد کیفی به کارکنان اطلاع داده میشود
				د-6-1) در این سازمان انتخاب عرضه کننده بر اساس کیفیت است نه بر اساس قیمت
				د-6-2) در این سازمان توسعه تولید باعث افزایش تعداد عرضه کننده میشود
				د-6-3) در این سازمان مسئولیتهای خرید در واحدهای مختلف بر اساس نوع محصول و خدمات آن واحد میباشد

خیلی کم <-----> خیلی زیاد				
				د-7-1) در این سازمان تمرکز ابزار استراتژی بر کیفیت میباشد
				د-7-2) در این سازمان با چارتهای فرایندها کنترل میشود، آماری
				د-7-3) در این سازمان بازرسی و کنترل مهمترین عامل میباشد

## **Appendix 3**

## MARKET POSITION QUESTIONNAIRE

Company Details:

Date:

Time:

Company name:

Address:

Contact name:

---

1) How is your company constituted, is your company status:

- a) Sole Trader
- b) Limited Company
- c) Partnership
- d) Public limited Company (PLC)

2) How long has your company been trading?

3) How many employees do you have?

Of these how many are:

Full time

Part time

4) Are you able to comment on approximately how many of your current employees are?

- a) Young people (under 21)
- b) 22yrs-40yrs
- c) Over 40 yrs

5) Does your company have any link with trade associations and/or are you members of any other external organisations? If yes, which ones:

- a) Business link
- b) Business network
- c) Chambers of Commerce
- d) National Federation of Small Business

- e) Professional Bodies-which bodies
- f) Trade association-which association
- g) Trade Unions-which unions?

6) What are the company's main products?

7) Which of the following describes the type of production carried out in your company?

- a) One off
- b) Small quantity
- c) Large quantity
- d) Line/Flow
- e) Continuous
- f) Other

8) Are the products manufactured at this site?

- a) Made to stock
- b) Made to order
- c) Assemble to order

9) Please roughly position your company in one of the sectors on the following grid:

**Figure 1.1: Product Classification**

		High	Product Complexity	Low
Uncertainty	High	Super Value Goods		Fashion / Jobbing fast response
	Low	Consumer Value	Durables	Commodities Mass Production

CULTURE	Very Little -----→ Very Much				
1) Have sufficient time for your personal or family life					
2) Have a good working relationship with your direct superior					
3) Work with people who cooperate well with one another					
4) How important is to respect for tradition					
5) Most people can be trusted					
6) Competition between employees usually does more harm than good					
7) When people have failed in life it is often their own fault					
Culture and organisation	Very Little -----→ Very Much				
1) This organisation shows loyalty and respect towards employees					
2) People are proud to work for the organisation					
3) In this organisation continuous improvement is a priority					
4) In this organisation people talk about the past					
5) In this organisation sticking to the basic is important					
6) This organisation balances the demands of work and personal/family demand					
7) In this organisation newcomers need to learn the formal rules and procedures					
8) In this organisation meetings are planned well in advance					

9) In this organisation decisions are always made in meeting					
10) In this organisation newcomers are left to find their own way in the organisation					
11) In this organisation we regularly celebrate our achievement					
12) In this organisation advancement and promotion is on the basis of job performance only					
13) People who are successful in this organisation are very ambitious					
14) Successful people in this organisation do not work long hours					
15) Successful managers in this organisation are mavericks who do things differently					
16) It is important to wear a suit in this organisation					
17) My dept has no rules about the use of memos, faxes and letters					
18) In this organisation experimentation and innovation are stressed, even at the expense of orderliness and consistency					
19) In this organisation controversial issues appear regularly in the staff magazine					
20) Everybody in organisation is cost conscious					
21) In this organisation employees are always well dressed					
22) People in this organisation talk seriously about organisation and the job					
23) In this organisation people are recruited who fit into the culture					
24) Across this organisation established procedures are important					
25) In this organisation pay and bonus is designed to maximise group/team interests					

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Very

Little -----→ Very Much

	Very Little-----→ Very Much				
26) In this organisation successful managers keep the best people in their own department					
27) communication is open between departments					
28) In this organisation management actively seeks new ideas					
29) All employees of this organisation acknowledge the need for change					
30) In this organisation employees are trained to use a wide range of problem solving tools					
31) In this organisation employees are not blamed for new ideas that don't work					
32) In this organisation everybody has an individual development plan					
33) In this organisation individuals are given reasonable challenges in their jobs					
34) In this organisation there is a balance struck between work, family and personal goal					
35) In this organisation employees have opportunities to use their skills effectively in their job					
36) In this organisation employees are rewarded for developing new ideas					
37) this organisation employees are not closed and secretive					
38) In this organisation team meetings are effective					
39) In this organisation senior managers take time to talk informally to employees					

40) In this organisation managers make use of everyone's job skills and talents					

	Very Little -----→ Very Much				
41) In this organisation managers are prepared to pass on responsibility and power					
42) In this organisation employees are treated fairly, and with respect					
43) In this organisation people are willing to share their power there is a lot of co-operation					
44) In this organisation employees avoid observing rules for the sake of rules					
45) In this organisation key processes have process owners managers responsible for the operation of that process					
46) In this organisation senior managers role is primarily strategy and planning					
47) This organisation is actively developing new capabilities and competencies to meet future needs					
48) In this organisation managers consider the longer-term when making daily decisions					
49) In this organisation we know our competitors and their strengths and weaknesses					
50) In this organisation we are strongly aware of the competition and what they are doing					
51) This organisation think ahead three years or more					

52) Everybody knows and understands the this organisation mission					
53) This organisation has clear long term goals agreed with all employees committed to achieving them					

	Very little -----→ Very Much				
54) This organisation procedures are more important than results					
55) In this organisation important decisions are made by groups and team					
56) In this organisation changes are normally made through consultation					
57) In this organisation budget pressures have no impact on decisions being made					
58) In this organisation employees are comfortable in unfamiliar situation					
59) In this organisation change is fast and immediate					
60) In this organisation every day is different					
61) In this organisation there is clear preference for challenge					
62) In this organisation projects are always implemented by agree deadline					
63) In this organisation we find it easy to adjust to new requirements					
TQM	Very Little -----→ Very Much				
1) Senior executive assume active responsibility for evaluation and improvement of management system, and leading quality drive					
2) Visibility of senior executive commitment to quality and customer satisfaction					

3) Clear, consistent communication of mission statement and objectives defining quality values, expectations and focus					
4) Elements of quality management structure are in place to manage the organisation's quality journey					
	Very Little -----→ Very Much				
5) The entire organisation understands that each individual and each process has internal customers and suppliers					
6) The entire workforce understands, and is committed to the vision, values, and quality goals of the organisation					
7) The use of employee surveys and tracking of other key measures to assess employee support of, and involvement in the quality initiative					
8) System for recognition and appreciation of quality efforts and success of individuals and teams					
9) Training for employees to improve interactive skills (such as communication skills, effective meeting skills, empowerment and leadership skills)					
10) Training for employees in problem identification and solving skills quality improvement skills and other technical skills					
11) Systematic review and analysis of key process measures that have a direct or indirect impact on value-addition to customer satisfaction					
12) Problem-solving and continuous improvement process, based on facts and systematic analysis					
13) Application of total quality approach to the management of support services and business					

14) A team approach (such as quality circles, cross functional teams) to problem solving and continuous improvement					
15) Cost of Quality process to track rework, waste, rejects, and for continues improvement					

	Very Little-----→ Very Much				
16) Zero defects as the quality performance standard					
17) Formal documented quality management system in place					
18) Reliance on reasonably few dependable suppliers who are evaluated and selected based on their capability and commitment to produce and service quality and value for money					
19) Long term relationship and working partnership with key suppliers					
20) Comprehensive identification of customers and customer needs and alignment of processes to satisfy the needs					
21) The use of customer surveys and feedback process, and tracking of other key measures to assess customer satisfaction					
22) People who are successful in this organisation have real concern for customers					
23) In this organisation senior managers focus is primarily on customer service and quality					
24) All employees understand who our customers are their requirements					
25) Quality and service is more important than volume and sales in this organisation					

26) Quality department accesses to top management					

Critical Success factors of TQM implementation	Very Little-----→ Very Much				
<i>Management Commitment</i>					
1) Top management assumes responsibilities for quality performance					
2) Acceptance of responsibilities for quality by heads of department.					
3) Specificity of quality goals within the company					
4) Degree of comprehensiveness of the quality plan within the company					
<i>Role of the quality department</i>	Very Little-----→ Very Much				
1) Visibility of the quality department					
2) Quality department accesses to top management					
3) Effectiveness of the quality department in improving quality					
4) Effectiveness of quality awareness measures among employees					
<i>Training and education</i>	Very Little -----→ Very Much				
1) Programs to develop teamwork between employees					
2) Quality-related training given to managers, supervisors and employees					
3) Training in the “total quality concept”					
4) Employees are trained in statistical improvement techniques (e.g. Histograms, Control chart etc)					
<i>Employee involvement</i>	Very Little -----→ Very Much				
1) Employee are recognised for superior quality performance					

2) Top management pushed decision making to the lowest practical level					
<i>Continuous improvement</i>	Very Little -----→ Very Much				
1) Review of quality issues in top management meeting					
2) Feedback provided to employees on their quality improvement					

	Very Little -----→ Very Much				
<i>Supplier Partnership</i>					
1) Suppliers are selected based on quality instead of price					
2) Improvement of the supplier in the product development process					
3) Responsibility assumed by purchasing department for the quality by incoming product and service					
<i>Quality Policies</i>	Very Little -----→ Very Much				
1) Implementation of strategies focused on quality					
2) Use of statistical control charts to control process					
3) Importance of inspection, review, or checking					
4) Policy of preventive equipment maintenance					

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