

**An assessment of TQM implementation, and the influence of  
organisational culture on TQM implementation in  
Libyan banks**

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## **Declaration**

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent those of the University.

Signed ..... Date .....

## **Abstract**

TQM has become a competitive strategy for organisations and has been widely implemented throughout the world. Over the previous three decades, there has been a dramatic growth globally in the implementation of total quality management (TQM) in many organisations with the aim of improving the quality of their products and services, and meeting customers' needs. Although the literature in the field relates the success of many organisations in the implementation of TQM, it also refers to the fact that there have been some failures or shortcomings and barriers to the implementation of TQM. These failures or barriers to adoption and implementation are due not only to a lack of top management commitment or weak understanding of total quality management, but also encompass organisational cultural factors.

The purpose of this research is to assess the level of TQM implementation, and to explore the influence of organisational culture on TQM implementation in Libyan banks. In addition, this research identifies the main obstacles that affect the implementation of TQM in Libyan banks.

This study uses both quantitative and qualitative methods to achieve the objectives of the research. A questionnaire was designed to determine the level of TQM implementation in Libyan banks, and to identify the causal relationships between factors, in order to explore the influence of organisational culture on TQM implementation. Complimentary semi-structured interviews were conducted with managers and supervisors to gain a greater understanding of some additional issues with regard to TQM practice and organisational culture.

The results of data analysis show that the level of TQM implementation in Libyan banks was low. The competing value framework (CVF) as proposed and tested by Denison and Spreitzer (1991) was used to explore the influence of organisational culture types on TQM implementation factors in Libyan banks. The findings showed that group culture and developmental culture had a positive influence on all TQM implementation factors. In addition, hierarchical culture and rational culture did not have any influence on TQM implementation factors in this context.

Moreover, the study revealed that some of the obstacles that affected the achievement of a high level of TQM implementation in Libyan banks were: a lack of top management commitment; a lack of training programmes relating to quality management; and a weak focus on customer expectations and satisfaction.

The findings of this study make an original contribution to the academic and practical knowledge of TQM. It is the first exploratory study to have assessed TQM implementation, and to have investigated the influence of organisational culture types on TQM implementation in Libyan banks. Besides presenting some recommendations for Libyan banks, the research offers suggestions for further research in this area.

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Finally, my deepest gratitude is due to all my friends for their help in the field work study, their encouragement and support. I am also grateful to all people who helped me during this project. I offer particular thanks to all of them.

## **Dedication**

*I dedicate this work to the soul of my father, and*

*all my family for their love and support:*

*Beloved mother;*

*Wonderful brothers and sisters;*

*Dearest wife;*

*and my children*

*Retaj, Raa, and Abdalsalam*

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## List of Abbreviations

| <b>Abbreviations</b> | <b>Definition</b>                               |
|----------------------|---|
| <b>ANOVA</b>         | The Analysis of Variance                        |
| <b>B</b>             | Benchmarking                                    |
| <b>BCD</b>           | Bank of Commerce and Development                |
| <b>CBL</b>           | Central Bank of Libya                           |
| <b>CFS</b>           | Customer Focus and Satisfaction                 |
| <b>CI</b>            | Continuous Improvement                          |
| <b>CIS</b>           | Communication and Information Systems           |
| <b>CSFs</b>          | Critical Success Factors                        |
| <b>CVF</b>           | The Computing Values Framework                  |
| <b>DC</b>            | Developmental Culture                           |
| <b>EE</b>            | Employee Empowerment                            |
| <b>EFQM</b>          | European Foundation for Quality Management      |
| <b>EI</b>            | Employee Involvement                            |
| <b>EQA</b>           | The European Quality Award                      |
| <b>ET</b>            | Employee Training                               |
| <b>FA</b>            | Factor analysis                                 |
| <b>GC</b>            | Group Culture                                   |
| <b>HC</b>            | Hierarchical Culture                            |
| <b>IDI</b>           | Individualism                                   |
| <b>ISO</b>           | International Standards Organisation            |
| <b>JUSE</b>          | The Japanese Union of Science and Engineering   |
| <b>LTO</b>           | Long term orientation                           |
| <b>MAS</b>           | Masculinity                                     |
| <b>MBNQA</b>         | The Malcolm Baldrige National Quality Award     |
| <b>NIST</b>          | National Institute of Standards and Technology  |
| <b>PCA</b>           | Principal component analysis                    |
| <b>PD</b>            | Power distance                                  |
| <b>PDCA</b>          | Plan, Do, Check, Act                            |
| <b>QA</b>            | Quality Assurance                               |
| <b>QC</b>            | Quality Control                                 |
| <b>QMS</b>           | Quality Management Systems                      |
| <b>QPP</b>           | Quality Policy and Planning                     |
| <b>RC</b>            | Rational Culture                                |
| <b>RR</b>            | Recognition and Reward                          |
| <b>SPC</b>           | Statistical Process Control                     |
| <b>SPSS</b>          | The Statistical Package for the Social Sciences |
| <b>TMC</b>           | Top Management Commitment                       |
| <b>TQC</b>           | Total Quality Control                           |
| <b>TQM</b>           | Total Quality Management                        |
| <b>UA</b>            | Uncertainty avoidance                           |
| <b>VIF</b>           | Variance Inflation Factor                       |
| <b>WB</b>            | World Bank                                      |

# **Chapter One: Introduction**

## **1.1 Introduction**

The objective of this preliminary chapter is to provide the reader with an overview of the research presented in this study. It commences with a brief discussion of the background to the study, followed by an exploration of the research objectives, research questions, and description of the significance and structure of the study.

## **1.2 Background of and need for the study**

The globalisation of the marketplace, international trade, and rapid technological innovation are among several factors that have increased competition, affecting businesses worldwide. To survive and compete in an environment characterised by rapid change, a number of organisations across the globe have begun to implement new ways of thinking and strategies to improve their organisational performance in order to become more efficient and flexible, and to achieve the benefits attainable with quality management; in particular, Total Quality Management (TQM) (Al-Khalifa and Aspinwall, 2000). TQM is a management philosophy designed to increase competitiveness, reduce costs, and secure continuous process improvement. Consequently, there has been a change in organisational thinking, from approaches based on production-oriented operations, to a more competitively oriented method that places the achievement of customer satisfaction at the centre of business operations (Baidoun, 2004).

Many organisations have realised that improving the quality of their products and services is vital for their businesses to survive and to compete in a fast-moving environment. Over the last few decades, the development and implementation of effective TQM has made it possible for organisations to occupy advantageous positions, and to be more competitive in the world-market.

Therefore, TQM has frequently been implemented as a means of achieving better product quality, improving the quality of services, and satisfying the needs and the expectations of customers. Many countries have started to create their own national quality awards in order to promote the employment of TQM at a national level; especially following the success of the Malcolm Baldrige Award (MBNQA) in the USA, and the European Quality award (EQA) in Europe.

However, in practice, it is not a simple task to achieve the benefits of TQM. Despite its success across several organisations, there is evidence to suggest that attempts to implement TQM are often unsuccessful (Garvin, 1986; Tata and Prasad, 1998; Rad, 2005; Venkatraman, 2007; Salaheldin, 2009). Moreover, many studies have indicated that several organisations failed to achieve the expected benefits of TQM due to their ignorance of cultural factors (Kekäle and Kekäle, 1995; Tata and Prasad, 1998; Al-Khalifa and Aspinwall 2000; Prajogo and McDermott, 2005; Yong and Pheng 2008; Zu et al., 2010). According to Deal and Kennedy (1999), successful implementation of TQM requires a measure of change in the values, attitudes, and culture of an organisation. Therefore, many organisations endeavour to shape their cultures as a means of improvement, aligning that culture with new trends in the application of new philosophies. In addition, Tata and Prasad (1998) have stated that the lack of significant success in implementation is often not viewed as a failure of the TQM philosophy, but more as a result of not paying sufficient attention to the cultural variables that affect it. It is clear, then, that culture is an important influence on organisational performance and TQM implementation. It is consequently important to understand and define organisational culture type in order to study an organisation's readiness for the adoption and implementation of TQM.

Owing to globalisation the international economic environment has experienced major changes in recent years. The financial sector has also witnessed fundamental changes, including the



consolidation of organisations and an increase in competitiveness. It is therefore logical to assume that this globalisation will affect banking efficiency. These situations have encouraged many countries (particularly Arab nations) to liberalise their financial sectors through deregulation, in order to upgrade efficiency levels and to enhance the health of their banking systems. The ultimate objective would be to promote effectiveness and improve performance.

There is no doubt that, in both developing and developed countries, the banking sector plays a vital role in economic and financial activities. It completes the functions of allocating financial resources and providing the public with a means to save for the future and to borrow to meet current financial needs. In developing countries, banks dominate the financial sector; and are generally the main source of finance in such economies.

Many emerging nations have undertaken a range of measures to reform their financial systems when facing increased competition from financial institutions based in more developed countries. These reforms aim to end government intervention, expand the role of the private sector through deregulation, open up economies to greater foreign participation in the banking sector and financial markets, and adopt transparent commercial procedures to achieve higher economic growth.

However, while it can be argued that the banking system plays an important role in the financial structure of a country, it is the state that bears the ultimate responsibility for maintaining the confidence of the public in the integrity and security of the banks. Such sincerity and trust are maintained at an international level by the World Bank (WB), the International Monetary Fund (IMF), and the Basel Committee, ensuring a sound and capable banking sector through continual reform. Furthermore, the main objective of these reforms is to enhance the efficiency of banking

operations by improving the quality of services, along with profitability and competitiveness; thus, maintaining competitive prices and offering greater safety and reliability.

As a developing country, the banking sector in Libya represents the backbone of the Libyan financial system. The country has taken some necessary steps towards reforming its banking system, the most visible of which has been the adoption of the new Banking Law, which became effective in January 2005. It is intended to deliver a banking system to Libya that will correspond with its international aspirations for economic renewal and achieve more active participation in the globalised economy. The main objectives of the new Banking Law No. 1 (2005) are:

- Emphasising the independence of the Central Bank in line with the best international practices.
- Improving the capital adequacy ratio of commercial banks.
- Strengthening the competitiveness of domestic banks, eventually leading to the participation of foreign banks in the domestic banking market.
- Adopting the Basel II principles of effective banking supervision.
- Improving the standards of and requirements the banks' supervisory disclosure.

Since 2005, the Libyan banking sector has achieved extraordinary growth, and its deposits have almost doubled. This rise has been accompanied by an increase in the equity of the banks, which grew by about 58% in the first nine months of 2009 alone. In terms of banking opportunities, the restructuring of the Libyan economy, the increased role of private domestic and foreign investors, and the large public development budget planned over the medium-term are providing banks with excellent opportunities to expand their business in Libya (Central Bank of Libya, 2010). In addition, the economic liberalisation policy adopted by the Libyan government and the Central Bank of Libya since the early 1990s has led to reforms in the Libyan banking sector, the licensing of foreign and domestic banks, and the introduction of foreign investment. Intense competition has further increased between private and public banks, as well as foreign banks, which are

seeking investment opportunities in Libya. This has led to massive reforms by the Libyan banks, and to the widespread application of modern methods, and studies thereof, in addition to greater use of international experts in the banking industry to develop processes and to improve the quality of the service offered. The Libyan banks therefore sought to correct the flaws in their management practices by adopting global 'best practices' such as TQM.

In spite of the large amount of research conducted and the articles published in relation to developed countries, there are few examples of research in developing countries (Tannock et al. 2002; Sila and Ebrahimpour, 2002), especially those which are Arab, and particularly in Libya. In general, the efforts made in developing countries to progress their economies and participate more fully in the global economy have failed, and their customers continue to suffer with low quality services and products (Lakhe and Mohanty, 1994). Moreover, Sandholm (1999) mentioned some factors that inhibit TQM implementation in developing countries; for example, the lack of raw materials, foreign exchange constraints, an underdeveloped infrastructure, deficiencies in management leadership and expertise, along with poor training and limited focus on the customer.

Few studies have been carried out in the Arab regions and in Arab countries, such as Badri et al. (1995), Al-Khalifa and Aspinwall (2000), Al-Zmany (2002), Chapman and Al-Khawaldeh (2002), Baidoun (2004), Al-Marri et al. (2007), Salaheldin (2009), and Shibani et al. (2010). They all aimed to determine the critical success factors informing TQM implementation in their countries. However, none of these studies investigated the influence of organisational culture on TQM implementation in the banking sector. The one exception is a study by Al-Marri et al. (2007), which examined the critical success factors in regards to TQM implementation in the banking sector in the United Arab Emirates (UAE).

It is apparent that there is an increasing movement towards recognition of the influence of organisational culture on the success or failure of TQM implementation. Furthermore, there has been a lack of research on the application of TQM and its relationship with organisational culture in developing countries. Additionally, Prajogo and McDormant (2005, p. 1118) “believe that the recursive effect between TQM and organizational culture would be an interesting topic to examine”. Additionally, Flynn and Saladin (2006) stated that culture can provide a fruitful area for future research into quality management and performance excellence. A substantial body of literature concerning organisational culture and its effect on management practices is available, and an extension of this line of thinking with regards to quality management and other operations management issues holds considerable potential for future research, particularly in developing countries. An examination of the literature that addresses the influence of organisational culture on the adoption of TQM in developing, and particularly in Arab countries reveals that there has been very little empirical research in this area, especially in Libya. Very few studies examining the above stated relationship have been conducted in either developed or developing countries. In the other words, there is a lack of information on the subject of the influence of organisational cultures on TQM implementation in these countries. This study therefore seeks to determine the levels of TQM implementation in Libya as a developing country, and to explore the influence of organisational culture on that aforementioned implementation, so as to investigate the main obstacles, if any, that prevent the implementation of TQM in Libyan banks. The objectives of this study are listed in more detail below.

### **1.3 Research objectives**

The principle aim of this study is to assess the level of TQM implementation, and explore the influence of organisational culture on TQM implementation in three Libyan banks. In order to achieve this, the following three objectives were formulated:

1. To determine the level of TQM implementation in Libyan banks.
2. To explore the influence of organisational culture types on TQM implementation in Libyan banks.
3. To identify the main barriers, if any, which affect the implementation of TQM in Libyan banks.

#### **1.4 Research questions**

As a means of achieving the objectives of this study, the following three questions were formulated:

1. What is the level of the implementation of TQM in Libyan banks?
2. Which types of organisational culture have an influence on TQM factors in Libyan banks?
3. What are the main barriers, if any, which affect the implementation of TQM in the Libyan banking sector?

#### **1.5 Significance of the study**

The significance of this study lies in the following:

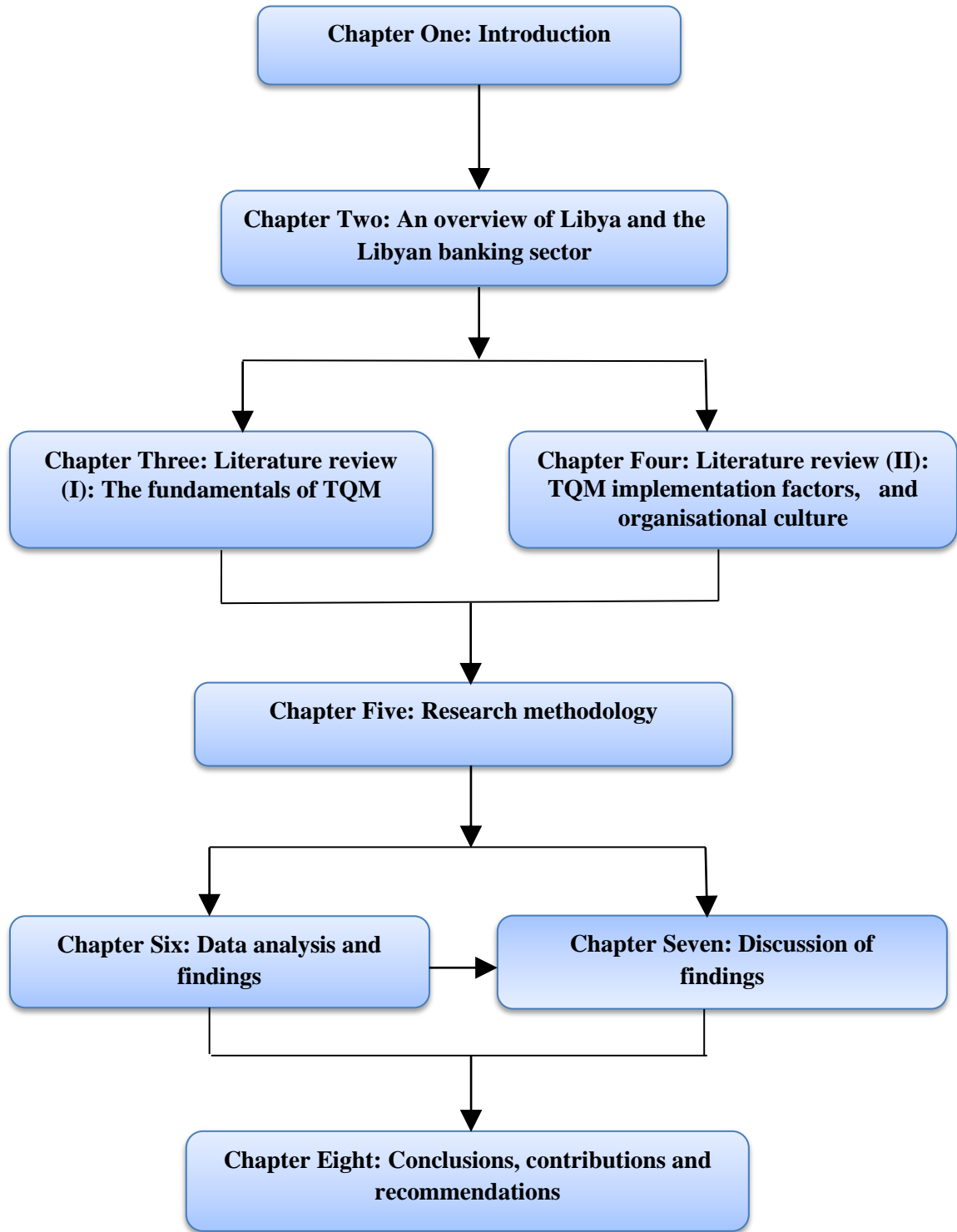
- It will contribute to the limited number of studies available, which are empirically based and validated, on the influence of organisational culture on TQM implementation. Research studies that assess and examine cultural effects on the success of TQM are required, particularly in developing countries, for both the development of knowledge on TQM and for improving TQM practices.
- The research attempts to partially fill the gap in the literature on TQM, and organisational culture in Libya, and is expected to be the beginning of further investigation and related studies.
- The study is an attempt to identify and evaluate the level of TQM implementation in Libyan banks, and is, therefore, the first of its kind.

- The study tries to understand and explore the influence of organisational culture types on the success or failure of TQM implementation in a developing country. A study of this type has the potential to aid other researchers when conducting assessments of TQM implementation in developing countries, particularly in the Arab region.
- The study is an attempt to identify the main barriers that prevent the implementation of TQM in Libyan banks.
- It is the first study into Libyan banks, and most likely in all Arab countries that focus on the influence of organisational culture types on TQM implementation in the Libyan banking sector.

## **1.6 The structure of the study**

This thesis is divided into eight chapters, as shown in Figure 1.1. Chapter One provides an introduction to the study, including the background and need for it, and presents the research objectives and questions. This is followed by the significance and the structure of the study. The second chapter gives an overview of Libya and the Libyan banking sector. Chapter Three discusses in detail the concept of TQM, the evolution of Total Quality Management, and the emergence of quality gurus and their contribution.

Chapter Four reviews the critical factors of TQM implementation, and organisational culture. The research methodology adopted is covered in Chapter Five. Data analysis and findings, including the discussion, can be found in more detail in Chapters Six and Seven respectively. Chapter Eight is dedicated to summarising the conclusions for each objective of this research, and the contribution of the study. Recommendations for further research are also presented, as shown in Figure 1.1



**Figure 1.1: The structure of the thesis**

## **Chapter Two: An overview of Libya and the Libyan banking sector**

### **2.1 Introduction**

The objective of this chapter is to provide the reader with a background, along with some additional aspects, related to the country in which this study was conducted. It consists of two parts. The first offers a brief review of Libya, consisting of the following sections: geography and population, national culture, and information relating to Libya's recent economic development. The second part looks at the banking sector in Libya, and consists of the following sections: the Libyan financial sector with a historical overview of the Libyan banking sector, changes in the Libyan banking sector, and a description of the Libyan commercial banks investigated in this study.

### **2.2 Libyan geography and population**

Libya is located in the middle of North Africa with a total area of approximately 1,775,500 sq. km (685,524 sq. miles), which makes it the fourth-largest country in Africa. It has a Mediterranean coastline of almost 2000 km (1250 miles). Nevertheless, over 60% of the land area is desert or semi-desert. The climate of the coastal strip is characteristically Mediterranean, whereas the climate of the remainder of the country is affected by the Sahara desert (Otman, and Karlberg, 2007). The country is bordered by Algeria and Tunisia to the west; Egypt and the Sudan to the east; and Niger, Chad, and the Sudan to the south. This location accords the country a strong strategic position, as it links not only north-eastern and north-western Africa, but also southern Europe and the rest of Africa.



A recent estimate (Central Bank of Libya, 2010) numbered the population of Libya at approximately 6,100 million inhabitants. This population is heavily concentrated in the coastal districts, where the largest cities, Tripoli and Benghazi, are located.

For most of its recent history, the country has been subject to periods of foreign control, the last of which was the Italian occupation (1911–45) and subsequent British administration (1945–51). In November 1949, the United Nations General Assembly passed a resolution stating that Libya should become independent before 1 January 1952. Consequently, on 24 December 1951, Libya was declared an independent monarchy and became the first country to achieve its independence through the United Nations. The Islamic religion and the Arabic language are two elements that characterise Libyan culture.

### **2.3 Libyan national culture**

Culture is a very important factor under consideration in this study, because of its direct influence on the implementation of TQM and, indeed, the economic development of any country. In Libya, social relations are considerably affected by family connections. This means that family obligations take priority above all else, including those to an employer. The Islamic religion and the Arabic language have been adopted throughout Libya, and have become the two dominant elements in the country's culture. They laid the foundations for a high degree of social homogeneity in the Libyan people (Farley, 1971).

According to Elfathaly (1979), the basic components of Libyan society are the extended family, the clan, the tribe, and the village. Each of these plays a very important role in the life of the individual and the life of the community. Islamic and Arabic cultures are dominant among the individuals and groups in Libya, as well as in people's social values, beliefs, and attitudes, and

many other aspects of their lives. This culture is reflected strongly by the influence of family and social relationships, which is carried over into the workplace. The importance and power that individuals enjoy in social settings is usually transferred into organisations. Elfathaly (1979) mentioned that when adopting a model from a developed country, as with modern management theories and techniques, it is necessary to take into consideration the cultural constraints resulting from wide gaps between the local cultural values and the values practiced in the developed countries. With regard to the culture of work in Libya, Wallace and Wilkinson (2004, p. 38) stated that “Libya’s work culture is very different from Europe’s in the sense that it is more similar to that which exists in the Arab world”. In addition, Islam is not only a religion but also a way of life, and thus it has an influence on the political, social, and education systems, as well as on other cultural aspects of Arab and Muslim societies. In addition, Libyan culture was affected by the Ottoman Authority (1551–1911), when Turkey ruled over the majority of Muslim countries around the world. At this time, Libyans were subject to many negative administrative activities, such as management bureaucracy, in which the character of an organisation is shaped by the personality of its senior personnel. In the era of Italian influence (1911–45), Libyans started to take on new behavioural forms, rules, procedures, working systems, technology, and other facilities as a result of Italian culture and colonial administration. The Italians established and managed enterprises and projects during this period, which provided Libyans with the opportunity to participate and become more experienced in the practice of management activities. Hickson and Pugh (1995) pointed out that some characteristics of Arab culture in organisations. The most significant of these include:

- Position and seniority significantly outweighing ability and performance in importance.
- Centralisation is apparent in decision-making, with minimal delegation of authority or power.

- Subordinates are committed to a formal hierarchy of authority.
- Social formalities and relationships are extremely important.
- Constant change and high levels of uncertainty at work are in evidence.
- Opposition and resistance from subordinates are rare.
- Decision-making is passed upwards and influenced by the prevalence of paternalistic and familial patterns in an organisation.

## **2.4 Libyan economic development**

Before 1959, Libya was one of the poorest countries in the world. Prior to the discovery of oil, the country's economy suffered from a budget deficit, and its economy was based on the limited productivity of a primitive agricultural sector and a few small industries. The economy was supported by aid from the UN and other organisations that helped it to survive and overcome the more economically severe years of the 1950s.

The Libyan economic situation changed following the discovery of oil in 1959, which brought an influx of foreign capital to establish enterprises to exploit this resource. From then on, the need for direct foreign support declined due to investment in the oil industry, which brought significant economic surplus to the state.

During the period of independence, 1951–69, the Libyan economic system was mainly capitalist. The government initiated three key measures to encourage competition and the development of economy, as well as the establishment of private businesses. These included the issue of import and export laws; the establishment of the Industrial and Real Estate Bank of Libya in order to provide loans to Libyan entrepreneurs to establish local industries, and the founding of an Industrial Research Centre to help implement the country's development plans by providing

technical and economic services to both the public and private sectors. The country was transformed from one with a gross international deficit to a trade-surplus nation (Abusnina and Shameya, 1997).

Following the Gaddafi military coup in 1969, the nation shifted from being a capitalist system to a socialist state. State intervention in the economy was increased and the government started to expand the public sector, restraining the private sector. The state came to dominate all manufacturing activities, foreign and domestic retail trade, and banking and insurance services.

Following a period of relative isolation, the Libyan government began to move towards a more open and liberal regime from 1987 onwards. As a consequence of the crises the Libyan economy faced in the late 1980s, the government permitted the establishment of private companies and banks, and gradually introduced a series of liberalisation measures into the economy.

In the 1990s the government also introduced a privatisation law, with regard to transference of projects from the governmental to private sectors. The law was intended to improve the roles of individual and private sector investments. Additionally, in the 1990s, the government issued Act No. 5, which permitted the entry of foreign investors, who were not subject to the same governmental rules as local companies, to join the economic activities of Libya. The act aimed to motivate foreign investors to participate, through their experience, knowledge, and modern technology, in promoting the national income and developing local sources of production, enabling the manufacture of goods suitable for the international market. Moreover, in order to facilitate the development of the Libyan economic infrastructure and to create a suitable economic environment for foreign investments in Libya, the Libyan government established the

Libyan Stock Market in 2005. Since that date, the Libyan authority has tried to develop numerous and varied economic activities in relation to the financial services sector.

Furthermore, many steps have been taken in a serious attempt by the Libyan authorities to accelerate the movement towards an open market economy. In addition to these measures, and in order to develop the financial sector, the government has issued other laws for developing the banking sector in Libya: Act No. 1 for the year 1993 allowed for the establishment of private commercial banks and foreign banks wishing to open branches or agencies, or to have representatives, in Libya. More recently, banking laws No. 1 and 2 in 2005 finally attempted to deliver a banking system to Libya that corresponds to its international aspirations for economic renewal and globalisation.

Further steps towards economic reform were also taken. These included the encouragement of private sector initiatives, removal of business boundaries, support for foreign investment, and an application to become a member of the World Trade Organisation in October (2004), together with the privatisation of state enterprises, freeing of prices, reduction of state subsidies, decentralisation of decision-making, and emphasis on education; all of which are steps in the direction of a more open market economy. This was a serious attempt by the Libyan government to accelerate movement towards achieving their aim.

## **2.5 The Libyan financial sector**

Libya's financial sector can be divided into two categories: banking and other financial institutions. The banking sector is composed of the Central Bank, commercial banks, and specialised banks. The Central Bank of Libya (CBL) was established in 1951 and was originally

named the Monetary Authority, under the supervision of the Ministry of Finance. It was changed to the Central Bank of Libya in 1956 (CBL, 2005).

At the end of 2010, there were fifteen commercial banks in Libya, including two state-owned banks and thirteen private banks (CBL, 2010). The specialised banks included five banks owned fully by the state:

- Libyan Foreign Bank, which deals with all international banking operations.
- Agricultural Bank, which aims to provide financial facilities to people engaged in agriculture activities.
- Development Bank, which aims to provide loans for productive projects in the industrial, and tourist sectors.
- Rural Bank aims to improve the level of individuals' incomes.
- Saving and Real Estate Investment Bank, which aims to provide loans for building and for buying houses for citizens.

Other financial institutions include the Libyan Stock Market, the Libyan Social Security Fund, the Foreign Exchange and Financial Services Company, three public investment companies (Libyan Arab African Investment Company, National Investments Company, and Libyan Arab Foreign Investment Company), one public insurance company (Libya Insurance Company), and three private insurance companies (United Insurance Company, Africa Insurance Company, and Sahara Insurance Company) (CBL, 2010).

## **2.6 A historical overview of the Libyan banking sector**

The Libyan banking system has undergone fundamental changes over the course of its history, relating to both its quality of service provision and the regulation and supervision of its activities. During the Ottoman era, the Libyan economy was mostly dependent on trade and agriculture. The Ottoman government established a banking system designed to reflect the importance of this

and to improve the performance of the Libyan economy. As a consequence, in 1868, the first Ottoman agriculture bank was established in Benghazi, followed by a second in Tripoli. Moreover, in 1906 and 1911, two branches of the Ottomani Bank were opened in Tripoli and Benghazi respectively (Abdelmalek, 2005).

In 1914, the Banco di Roma opened branches in Tripoli and Benghazi, marking the beginning of the Italian economic penetration of Libya. Banco di Roma ran regular steamship and postal service between Libya, Egypt, and Malta, and the bank invested heavily in local agriculture, electricity, and mineral prospecting (Pohl and Freitag, 1994).

In the 1950s, all the commercial banks in Libya were branches of foreign banks: three had their head offices in Italy, two in the UK, and one each in Egypt, Jordan, and France (Abdelmalek, 2005). However, on 24 December 1951, the day Libya gained its independence, there were only two banks offering primary banking services. One of them was Barclays Bank, which as a result of the Libyan membership of the sterling bloc, had taken on the responsibility of issuing Libyan currency in the absence of a Libyan Central Bank (Khader, 1987).

On 22 December 1970, the new government issued a law that gave them the right to nationalise the ownership of the foreign banks in the Libyan banking sector, and to reorganise the commercial banks (Khader, 1987). These moves towards the nationalisation of banking assets and the limitation of personal wealth were eventually followed by a reverse process. Due to the crises the Libyan economy faced in the late 1980s, and the international changes in the global economy, the government issued Law No. 9 in 1993, which provided for the privatisation of state assets and gave a greater role to the private sector in the economy. This marked a dramatic

turnaround in government policy, and a return to the past (The Economist Intelligence Unit, 1992).

The next section of this chapter is divided under three major headings. The first provides a brief introduction to the changes in the Libyan banking sector. The second considers the Central Bank of Libya (CBL) as the supervisory and regulatory authority of the country's banking system. The third examines the Libyan commercial banks targeted in this study.

## **2.7 The changes in the Libyan banking sector**

The banking sector in Libya is a key element of the country's financial system. The government conducted a programme of reforms in the financial sector, aimed at restructuring state-owned banks and, for a number of them, adjusting the ownership structure to include or increase private sector participation in their capital (Porter and Yergin, 2006).

Libya has taken some steps in the direction of reform in its banking system, and has looked to upgrade the available services and products; to establish a functioning national payments system, facilitate the use of non-cash payment instruments, and institute new standards of accounting and training (The Department of State Report, 2007). The most important steps to reform the banking system, taken by the government include the issuing of Act No. 1, 1993, allowing for private commercial and foreign banks to open branches or agencies, or have representatives in Libya, along with the issuing of banking Law No.1, which became effective in 2005. The main objectives of this law are to improve the capital adequacy ratio of commercial banks, strengthen the competitiveness of domestic banks, eventually culminating in the participation of foreign banks in the domestic banking market. Adopt Basel II principles on effective banking supervision, and improve standards of and requirements for supervisory disclosure by the banks.



As one of the main reform programmes in the financial sector, the Central Bank of Libya additionally announced the integration of Al Oumma Bank and Al Joumhouriya Bank in 2007, as a step aimed towards developing the banking sector and the establishment of a national bank, which would be the first among local and regional banks in terms of its ability to achieve high-growth rates, provide excellent services to customers, and to compete against other foreign banks.

Moreover, in the same year and under the privatisation programme, BNP Paribas acquired a 19% stake in Sahara Bank, the second largest commercial bank in the country, with the option to raise the proportion of purchase up to 51% by 2012. Furthermore, early in 2008, the Jordanian Arab Bank acquired a 19% stake in Al Wahda Bank, with the same option to raise the proportion of purchase up to 51% within three to five years (Pargeter, 2010).

In September 2009, the Central Bank of Libya announced the privatisation of part of the National Commercial Bank (NCB), a share of 15% that was worth 50 million dinars. The tender process was designed to be open to international banks, which would not require local partners. In February 2010, the Central Bank of Libya planned to grant two licenses for foreign institutions to set up branches in Libya. The foreign banks were to control 49% of their Libyan subsidiaries and have full management control, while the remaining 51% would be owned by domestic investors with a limit of 15% per investor (Oxford Business Group, 2010).

The steps outlined above were taken to strengthen the role of the banking sector in a process of competitive openness directed towards global and international banks. Additionally, the Central Bank gave their approval to open several national and international private banks and financial

institutions that would provide the necessary banking services, as a further step towards the development of the banking sector and financial and economic infrastructure in the country. Through this banking sector reform, the Libyan government was able to restructure their financial sector, which had hitherto been hugely dependent on the banks.

## **2.8 The Central Bank of Libya (CBL)**

The Central Bank of Libya (CBL) began operations in 1956. It is 100% state owned and represents the monetary authority of Libya, enjoying the status of an autonomous corporate body. According to the law that established the Central Bank, its objective is to maintain monetary stability and promote the growth of the economy in Libya, in accordance with the general economic policy of the state (CBL, 2010).

Libyan banks law No.1, 2005 specified the functions of the CBL: (1) issuing and regulating banknotes and coins, (2) maintaining and stabilising the Libyan currency, (3) managing the official reserves of gold and foreign exchange, (4) regulating the quantity, quality, and cost of credit, (5) acting as a supervisor to the commercial banks, (6) acting as a banker and fiscal agent to the state and public entities, (7) supervising foreign exchange, and (8) advising the state on the formulation and implementation of financial and economic policy (Law 1, 2005: Article 5).

In addition, the Central Bank of Libya plays a key role economic development, through the establishment of financial and monetary institutions intended to encourage citizens to save; these savings are then used in development projects and investment. Moreover, the CBL contributes to strengthening the financial position of the state through its foreign exchange and gold holdings. The role of the Central Bank is manifested through the provision of an investment climate that helps to attract local and foreign investments to contribute to the development of the structure of

the economy, and also encouraging the development of monetary policies, which have an impact on the stability of the currency and economy.

## **2.9 The Libyan commercial banks in this study**

Libyan banks Law (2005) defined a commercial bank as “any company that ordinarily accepts deposits in current demand accounts or time deposits, grants loans and credit facilities and engages in other such banking activities”. The following is a brief overview of the commercial banks investigated during the course of this study of Libya.

### **2.9.1 Sahara Bank**

Sahara Bank was established in 1964; it is the second largest bank in Libya in terms of assets, deposits, and loans. As one of the country’s leading banks, Sahara Bank has a network of forty-eight branches across Libya, and is ranked among the best twenty-five Arab banks (Otman and Karlberg, 2007). It was the first bank in Libya to enter into a strategic partnership with a foreign bank (BNP Paribas), and has therefore been able to build a strong network of correspondents worldwide to serve the interests of its clients. As a member of the BNP Paribas Group, it is able to take advantage of an existing network of ninety dedicated trade centres around the world (Sahara Bank, 2010).

The bank has a unique and leading position in the marketplace through its dealings with multinational companies and embassies, and it enjoys strong relationships with most large foreign organisations, as well as local companies and individuals who do business in the country. The bank is seeking to expand and diversify its services portfolio to take advantage of the resources provided by its foreign partner, BNP Paribas Group (Oxford Business Group, 2010).

Additionally, the bank is striving to meet its customers' expectations and improve its client services through three main lines of business (Sahara Bank, 2010):

1. Institutional banking designed for state entities, development funds, banks, and insurance companies.
2. Corporate banking through specialised organisations and dedicated services.
3. Retail banking operations proposing new product offers and high-quality service.

The bank recently added a fourth line to its Islamic banking services in order to provide those which are consistent with Islamic principles in terms of commercial and financial transactions. Through these operations, Sahara Bank aims to consolidate and develop relationships with current clients and to finance institutional projects, to provide a high-quality service that meets customer needs. It further aims to enjoy a competitive advantage, setting it apart from its competitors, and positioning itself as the first choice for foreign companies and local organisations, especially for those that take wish to take advantage of the resources of the BNP Paribas network.

Sahara Bank is likely to witness strong growth in interest income as a result of the expansion in its loan portfolio, while continuing to build its retail banking and financing operations; this is a significant growth area in Libya. Furthermore, the bank is seeking to expand and restructure some its branches to improve the quality of products and services offered to its customers (Oxford Business Group, 2010).

## **2.9.2 Wahda Bank**

Wahda Bank was established in 1970 as a consequence of a merger of five banks: African Arab Bank Company, Bank of North Africa, Al-Kafela Bank, Al-Nahda Bank, and the Commercial Bank. Wahda Bank is a Libyan joint-stock company, providing a wide range of banking products and services through its seventy-six branches, each of which is equipped with modern technology and hardware. In 2008, the Central Bank of Libya announced that the Jordanian Arab Bank had acquired a 19% stake in Wahda Bank, with the option to raise the proportion of purchase up to 51% within three to five years, as a strategic partner (Pargeter, 2010).

Wahda Bank is one of the leading banks in Libya, and provides excellent banking services that utilise the most modern techniques to present a comprehensive bundle of products and services to meet customers' needs. Wahda Bank has sought to keep pace with the continuous development in the provision of banking services and modern management through the investment in and development of qualified staff, via a variety of accredited programs in this area. Staff training can take place at home or abroad, and employs the latest information and communications technology in order to promote and improve the public image of the bank, thereby increasing market share and access to high-growth rates, enjoying sufficient flexibility in the implementation of banking operations, and improving the skills of employees, thus raising the performance of the bank (Wahda Bank, 2010).

Due to the success of the bank in maintaining the level of growth of assets, profitability, strategic relationships, and a distinguished performance, Wahda Bank gained several awards from international organisations in 2008. These awards had a positive impact on the improvement and development of banking operations, and further provided high-quality services and products to the customers. Wahda Bank was granted the Global Finance Award by *Global Finance*

magazine, and was the top bank in Libya in 2008 (see Appendix C). In addition, the bank was selected by the magazine *Bankers* in 2008, for its valuable and admirable achievements in the banking industry at both local and international levels. Furthermore, the magazine for the Union of Arab Banks ranked Wahda Bank among its top 100 banks in terms of assets (Wahda Bank, 2010)

### **2.9.3 Bank of Commerce and Development**

The Bank of Commerce and Development (BCD) was established in 1996, as a Libyan joint-stock company. It is a member of the Union of Arab Banks, the Society of Libyan Banks, and the Union of Maghreb Banks; it ranks fifth among Libyan banks in terms of assets and deposits, and sixth in terms of loans. It currently has twenty-eight branches and agencies in diverse regions of Libya. This bank is considered to be the fastest growing in Libya, and has invested in advanced technology. It was the first Libyan bank to offer online banking, and has capitalised on its IT infrastructure, which allows the bank to quickly roll out the implementation of standardised new services throughout its network (Otman and Karlberg, 2007).

### **2.10 Chapter summary**

The objective of this chapter has been to give the reader an understanding of the financial landscape of the country in which this study was conducted. It provided general information about Libya and its geography and population, national culture and economic development. Information concerning the Libyan banking sector and those banks that represent the study population were also provided.

Libya has witnessed much change in its state administration, which has affected management thinking in all sectors, especially the banking sector. For this reason, the researcher has provided

background information on Libya in terms of economic development, and the changes that have taken place regarding the Libyan banking sector. This type of information is necessary for a better understanding of the study's subject, and the focus has therefore been on those changes that have played a vital role in the conditions affecting the transitioning of the Libyan banking sector since Act No. 1 was issued in 1993. This chapter has also discussed the role of the Central Bank of Libya, which gave its approval for the opening of several national and international private banks and financial institutions as a means of developing the banking sector and financial and economic infrastructure in the country. The next chapter will review the literature regarding the fundamentals of Total Quality Management and its principles and applications.

## **Chapter Three: The Fundamentals of Total Quality Management**

### **3.1 Introduction**

Thus chapter provides an overview of the literature pertaining to TQM. It presents an overview of the fundamentals of TQM in terms of its concept and history, the influence of quality ‘gurus’ and their contributions, models of implementation and a brief introduction to TQM awards, the movement of TQM implementation in developed and developing countries. This is done in order to provide an understanding TQM theory, which underpins the foundations of its implementation by organisations.

### **3.2 The concept of quality**

The concept of ‘quality’ is very broad and correlates to a wide range of human needs. The literature revealed that there are various definitions of quality. These definitions are related to knowledge of products, services, and customer and client satisfaction. There is no single universal definition of quality, and several authors and experts have defined it in different ways:

- “Conformance to requirements” (Crosby, 1979, p. 17).
- “Quality should be aimed at the needs of the customer, present and future” (Deming, 1986, p. 5).
- “Quality is the fitness for use” (Juran, 1992, p. 9).
- “The total composite product and service characteristics of marketing, engineering, manufacturing and maintenance through which the product and service in use will meet the expectation by the customer” (Feigenbaum, 1991, p. 7).
- “Meeting the customer requirements” (Oakland, 2003, p. 4).



Ishikawa defined quality as “(1) quality and customer satisfaction are the same thing: and (2) quality is a broad concept that goes beyond just product quality to also include the quality people, process, and every other aspect of the organisation” (cited in Goetsch and Davis, 2010, p. 5).

It can be concluded from these definitions that quality is perceived as meeting the needs and expectations of customers through providing superior products and services in order to achieve the goals of the organisation.

### **3.3 The evolution of TQM**

Despite the emergence of ‘quality’ over a long period of time, it is difficult to determine the history of this concept, although attention has mostly focussed on its origins at the start of the twentieth century, with the onset of large-size industrial companies and the development of a significant volume of production. As a concept, TQM’s roots can be traced to the work of Walter Shewhart, who worked in the Bell Telephone Laboratories in the 1920s. Shewhart developed techniques for controlling and evaluating the quality of products, and suggested means of improvement. In addition, he designed a cyclical model, known as the ‘plan-do-check-act cycle’, which is applied scientifically to improve any productive process (Evans and Lindsay, 2001). The evolution of TQM was classified as passing through four stages (Garvin, 1988; James, 1996; Dale, 2003; Besterfield, 2003), which are:

#### **3.2.1 Inspection**

ISO 4802 (1995) defines inspection as an “activity such as measuring, examining and testing or gauging one or more characteristics of an entity and comparing the results with specified requirements in order to establish whether conformity is achieved for each characteristic” (cited in Dale and Bunney, 1999, p. 25).

According to Feigbaum (1991), when manufacturing entered the period of mass production, it became common for all finished products to be examined for quality. Quality inspection was advanced considerably by the productive efforts during the First World War, and, by the advent of the Second World War, manufacturing systems were even more complicated; principally due to large quantities of labourers reporting to smaller numbers of supervisors, meaning there was potential for control over the work to be easily lost. To alleviate this problem, companies began to employ full-time quality inspectors. During this stage, there was no product uniformity, and inspection was thought to be the only way to ensure high quality. Under a simple inspection-based system, one or more characteristics of a product were examined, measured, tested, or assessed, and compared with specified requirements to assess conformity.

### **3.3.2 Quality Control (QC)**

In 1924, Walter Shewhart, who worked in Bell Telephone Laboratories, developed concepts basic to statistical quality control. In 1931, he published his book “*Economic Control of Quality of Manufactured Product*”, which marked a significant advance in the quality movement (Costin, 1994). He developed techniques for controlling, monitoring, and evaluating the quality of products, continuing on to suggest ways to improve product quality. The Shewhart control chart, his major contribution, formed the basis of statistical process control (SPC) techniques for differentiating between acceptable or inherent, and unacceptable fluctuations or assignable causes of variation. This helped to reduce time delays at the inspection stage, which had formerly been slowing down production; it also enabled companies to bring about further improvements in the quality of products. In the late 1940s, quality control was established as a recognised discipline. Its methods were primarily statistical; however, its impact was confined largely to the factory floor. Juran (1989) observed that quality control is a managerial process through which actual

quality performance can be evaluated, actual performance can be compared to quality goals, and then action may be taken with respect to the differences.

### **3.3.3 Quality Assurance (QA)**

Quality assurance is considered the third step in the process of evolution towards TQM. It is different from quality control, in the sense that quality assurance is manifest before and during the event process (Sallis, 1993, p. 26). According to Dale (2003), quality assurance is a prevention system that improves product and service quality, and increases productivity, by placing the emphasis on product, service, and process design. By concentrating on source activities and integrating quality into the planning and design stage, the creation of non-conforming products or services are prevented from being delivered in the first instance, even when the defects are identified early in the process. During this period, the production system became more complicated. The key elements considered important for quality control were zero defects, quantifying the costs of quality, reliability, and total quality control, together with advanced quality planning, and improvement of product design, process, and services. Thus, the result was that quality assurance improved control over the productive process, and initiatives aimed at involving and motivating employees were implemented. In this way, quality had a broader implication for management than it had during the quality control stage (Garvin, 1988). This concept led to the fourth stage in the evolution of quality management.

### **3.3.4 Total Quality Management (TQM)**

TQM is the fourth level of quality management evolution. TQM became popular in the mid-1980s, yet many fundamental elements were developed during the period between the 1950s and 1970s. Most theoretical developments in the advancement of the concept were made in the US; although Japan has held the initiative in terms of application (Martinez-Lorente et al., 1998, p.

385). Krüger (2001) considers Deming, Juran, Ishikawa, Crosby, and Feigenbaum to be the most important gurus of the quality management movement, and calls them the 'big five'. Their views and approaches to TQM are not the same, however. Oakland (1993) stated that all these gurus focus on the basic principles of total quality, but behave as if they are presenting different solutions to the requirements of quality management. They are all talking the same 'language' but they use different dialects.

In numerous more developed economies, TQM became one of the most important competitive strategies available to managers during the 1990s; it was widely implemented throughout different regions of the world. A consensus developed that TQM represents a philosophy that provides an organisation with the ability to improve its overall effectiveness, allowing it to compete globally (Anderson et al., 1994; Kanji and Tambi, 1999). The benefits of TQM include such examples as products with fewer defects, a reduction in rework and lead times, cost reductions, improved business competitiveness, increases in market share and profitability, increased flexibility, and enhanced employee and customer satisfaction (Youssef et al., 1996).

The global market, as it exists in the early twenty-first century, is highly competitive, and the demands of customers are becoming more and more exacting, as they are able to access improved quality products and services from markets in regions all over the world. Modern business organisations therefore require a process of continuous improvement in all of their business activities, and must place the needs of the customer at the centre of all organisational activities, with an emphasis on flexibility and quality as a means of confronting the competitive threats that are constantly evolving (Dale, 2003).

### 3.4 Definition of TQM

Providing a final definition of the concept of TQM is not a simple process, and researchers in this area have frequently suggested their own definitions according to their beliefs, views, and the business and academic experience they have acquired. Definitions of TQM therefore vary widely. In general, TQM refers to any emphasis on quality that encompasses the whole organisation, from supplier to customer. The objective of TQM in practice is to improve the performance of an organisation; it is concerned with continual improvement, customer focus, and total participation. Although there is no universally accepted definition of quality management, there have been attempts to arrive at a description for the ideal of total quality management. Examples include:

- Oakland (2003, p. 30): *“A comprehensive approach for improving competitiveness and flexibility through planning, organising and understanding each activity, and involving everyone at each level. TQM ensures that the management adopts a strategic overview of quality and focus on prevention rather than inspection.”*
- Dale (2003, p. 26): *“TQM is the mutual co-operation of everyone in an organisation and associated business processes to produce products and services which meet and hopefully exceed the needs and expectations of customers.”*
- Jeffries et al. (1996, p. 15): *“a comprehensive and integrated way of managing any organisation in order to meet the needs of the customers consistently and achieve continuous improvement in every aspect of the organisation’s activities.”*
- Kanji (1996, p. 1): *“TQM is a continuous improvement process for individuals, groups and whole organizations. What makes TQM different from other management processes is the concentrated focus on continuous improvement.”*
- Flynn et al. (1994, p. 342): *“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 expectation.”*
- Kreitner (2004, p. 579): *“creating an organizational culture committed to the continuous improvement of skills, teamwork, processes, product, and service quality.”* Kreitner’s

definition emphasises continuous quality and understanding of the organisational environment.

- Zairi and Youssef (1995, p. 5): *“a positive attempt by the organizations concerned to improve structural, infrastructural, 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.”*
- Montgomery et al. (2011, p. 39): *“total quality management is a set of management practices aimed at instilling awareness of quality principles throughout the organisation and ensuring that the customer requirements are consistently met or exceeded.”*

It is clear from the above that all definitions agree that TQM is a philosophy for improving quality, productivity and services, improving all aspects of the organisation’s activities, with a focus on meeting the requirements of consumers at present and the future. As a result, the researcher considers TQM to be a comprehensive philosophy, which adopts a strategic overview of quality, creating an organisational culture committed to the continuous improvement process in every aspect of an organisation’s activities. This is achieved through top management commitment, the participation of employees, providing products and services of high quality in order to improve the competitiveness of the organisation, and consistently meeting the needs and expectations of customers to achieve customer satisfaction. Given this definition, TQM is reflected as a management philosophy that applies strategies and tools and appropriate factors for its implementation through the continuous improvement of the organisation’s activities, thanks to the participation of its employees, in order to accomplish customer satisfaction.

However, any organisation that intends to adopt and implement TQM must understand its principles, tools, and techniques, as detailed by the contributions of scholars such as Deming, Juran, and Crosby. The following section illustrates the principal TQM gurus’ philosophies and methods.

### **3.5 Quality gurus and their contribution**

In order to understand TQM theory, it is necessary to consider the philosophies of prominent individuals who have influenced its development. These individuals have contributed greatly to the existing knowledge and understanding of quality management. Deming, Juran, Crosby, Feigenbaum, and Ishikawa are considered the most famous in the field of TQM because of their contribution to knowledge and construction of TQM principles and methods:

#### **3.5.1 W. Edwards Deming**

W. Edwards Deming is considered to be the founding father of TQM, and is perhaps the most famous of the quality gurus because of his input in the creation of quality principles. Deming's early interests in quality management focused on the statistical sampling techniques developed by the Bell Laboratory Company. This organisation made major strides in the development of control charts (Flood, 1993). The Deming philosophy of quality management focused on improving products and service quality by reducing uncertainty and variability in design during the manufacturing processes (Evans and Dean, 2000; Saraph et al., 1989; Flood, 1993). According to Montgomery et al. (2011), the Deming philosophy is an important framework for implementing quality and productivity improvement. This philosophy is summarised by his fourteen points for management. The following text provides a brief statement of these points (Deming, 1986; Oakland, 1993; Dale, 2003; Goetsch and Davis, 2010; Montgomery et al., 2011):

1. Create constancy of purpose to improve products and services.
2. Adopt a new philosophy. Management must learn that it is a new economic age and waken to the challenge, learn their responsibilities, and take leadership for change.
3. Stop depending on inspection to achieve quality; build in quality from the start.
4. Stop awarding contracts on the basis of low bids.

5. Constantly improve the system of production and service to further quality and productivity, and thus constantly reduce costs.
6. Institute modern methods of training on the job.
7. Institute leadership. The purpose of leadership should be to help people do a better job.
8. Drive out fear to improve the effectiveness of all employees.
9. Break down barriers between departments so that people can work as a team.
10. Eliminate slogans, exhortations, and targets for the workforce. They create adversarial relationships.
11. Eliminate quotas and management by objectives. Substitute leadership.
12. Remove barriers that rob employees of their pride of workmanship.
13. Institute a vigorous programme of education and self-improvement.
14. Make the transformation everyone's job and put everyone to work on it.

These points are principles that help guide organisations in the achievement of quality improvement. The principles are founded on the idea that upper management must serve with a commitment to quality, and provide a system of support for this commitment that involves all employees. Deming stressed that quality improvements cannot be instated without an organisational change deriving from upper management. In addition, Deming frequently mentioned the seven deadly diseases of management. He believed that each disease was a barrier to the effective implementation of his philosophy (Montgomery et al, 2011). According Goetsch and Davis (2010) and Montgomery et al. (2011), the seven deadly diseases of management are:

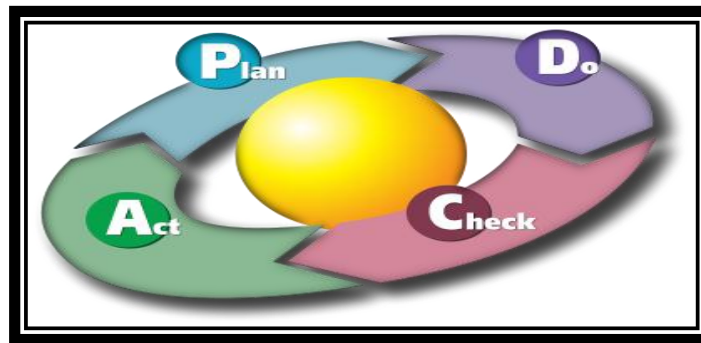
1. Lack of constancy of purpose to plan products and services that have a market sufficient to keep the organisation in business and providing jobs.
2. Emphasis on short-term profit.
3. Personal review system for managers and management by objectives, without providing methods or resources to accomplish them. Performance evaluations, merit ratings, and annual appraisals are all part of this disease.
4. Mobility of managers.



5. Using only visible data and information in decision making, with little or no consideration given to what is not known or cannot be known.
6. Excessive medical costs.
7. Excessive legal damage awards.

Another contribution made by Deming's is the PDCA cycle, which guides incessant improvement. The cycle is a process of improvement where incremental actions are measured and compared with the desired expectations. The PDCA Cycle is an improvement framework for products and services, processes, and systems of processes (Montgomery et al., 2011), as demonstrated in Figure 3.1:

**Figure 3.1: The Deming Cycle – PDCA**



Source: Deming (1986)

The PDCA Cycle consists of four major elements (as shown in Figure 3.1), each of which can be subdivided into the necessary step-by-step problem-solving activities (Goetsch and Davis, 2010):

- **Plan:** establish objectives and develop the plans to achieve them.
- **Do:** put the plans in actions.
- **Check:** measure and analyse the results of the change to determine what has been learned about the changes that took place.
- **Act:** make any necessary changes to the plans, and repeat the cycle.

The process is almost always iterative, and may require several cycles for solving complex problems (Montgomery et al., 2011). Its function is to operate in a never-ending loop.

Deming believes in continuous improvement through reduced variation. He also believes that the consumer is the most important stage of a production line. He views meeting the needs and expectations of customers as the responsibility of everyone within the organisation. Furthermore, Deming believes the use of statistical process control (SPC) charts to be a key method for solving problems.

### **3.5.2 Joseph Juran**

Juran (1992) defined quality as “fitness for use”. His message was that quality does not happen by chance; it has to be planned and is part of a quality trilogy: quality planning, quality control, and quality improvement. Juran used his quality trilogy to explain the interrelationship of these three processes (Goetsch and Davis, 2010). According to Dale and Bunney (1999), Juran focused on the role of senior people in quality management. Among the key principles in Juran’s approach were identifying customers’ needs, establishing optimal goals, measuring quality processes, and cost and error reduction. Juran’s principles for managing quality were based on the ten points listed below (Dale, 2003; Oakland, 2003; Goetsch and Davis, 2010):

1. Build awareness of both the need for improvement and opportunity for improvement.
2. Set goals for improvement.
3. Organise to meet the goals that have been set.
4. Provide training.
5. Implement projects aimed at solving problems.
6. Report progress.
7. Give recognition.
8. Communicate results.
9. Keep the score.
10. Maintain momentum by building improvement into the company’s regular systems.

It was Juran's belief that approximately 80% of all quality defects were caused by factors which could have been prevented by management (Flood, 1993). Goetsch and Davis (2010) summarised Juran's philosophy as follows:

- Juran's three basic steps to progress included:
  - Achieve structured improvements on a continual basis, combining dedication with a sense of urgency.
  - Establish extensive training programmes.
  - Establish commitment and leadership the role of higher management.
- Juran's ten steps to quality improvement (detailed above).
- The Juran trilogy, which summarised the three primary functions for quality, included: quality planning, quality control, and quality improvement.

Juran's approach differed from that of Deming in that he did not maintain the need for organisations to make major cultural changes, but instead suggested improvements within the system that were designed to increase quality. Juran emphasises building a quality improvement system from the existing management system, which is more aligned with American practices, while Deming's approach stresses the need to change organisational culture through management initiatives, and is more consistent with Japanese management practices (Flood, 1993; Mohanty and Lakhe, 2000).

### **3.5.3 Philip B. Crosby**

Crosby (1979) defines quality simply as conformity to requirements, and states that those requirements must be defined in measurable and clearly stated terms. Crosby's concept starts with the statement "Quality is free". He believes that quality is either present or absent. Crosby's most famous dictum is the phrase "do it right first time" (Bendell et al., 1995), and the concomitant notion of zero defects. He argues that organisations should not tolerate any number

of defects, and should refuse to accept the principle that defects are inevitable in an operating process due to the imperfections of systems and workers. Crosby believed that all defects are preventable (Mohanty and Lakhe, 2000).

Crosby, like Deming, is famous for his fourteen principles of continuous quality improvement, through which a total quality culture can be developed. Dale (2003) indicated that these principles to quality improvement are:

1. Make it clear that management is committed to quality for the long term.
2. Form cross-departmental quality improvement teams.
3. Identify where current and potential problems exist.
4. Assess the cost of quality and explain how it is used as a management tool.
5. Increase quality awareness and personal commitment through training and education.
6. Take immediate action to correct problems identified.
7. Establish a zero defects programme.
8. Train supervisors to carry out their responsibilities in the quality programme.
9. Hold a zero defects day to ensure all employees are aware there is a new direction.
10. Encourage individuals and teams to establish both personal and team improvement goals.
11. Encourage employees to tell management about obstacles they face in trying to meet quality goals.
12. Recognise employees who participate.
13. Implement quality councils to promote continual communication.
14. Repeat everything to illustrate that quality improvement is a never-ending process.

The essence of Crosby's quality philosophy is embodied in what he calls the "Absolutes of Quality Management" and the "Basic Elements of Improvement". Crosby's approach is based on four absolutes of quality management, summarised as (Dale, 2003):

- Quality is conformance to the requirements.
- The measurement of quality is the cost of quality.
- The only performance standard is zero defects.

- The system for achieving quality is prevention not appraisal.

Unlike those of Juran and Deming, Crosby's programme is primarily behavioural. He places more emphasis on management and organisational processes for changing culture and attitudes, than on the use of statistical techniques (Evans and Dean, 2000). Crosby (1979) believed that mistakes that raise the cost of quality have at least two causes. Firstly, a lack of knowledge: this cause can be eliminated by education and training. Secondly, lack of attention: this can be addressed by a personal commitment to excellence (zero defects) and attention to detail. Crosby also emphasised the significance of management style to successful quality improvement. The key to quality improvement is to change the thinking of the top managers; to make them intolerant of mistakes and defects, as this will in turn increase worker's expectations and improve job standards.

#### **3.5.4 Armand V. Feigenbaum**

Feigenbaum was the first quality guru to introduce the concept of total quality control (TQC), which he did in his book entitled *Total Quality Control* in 1961 (Mohanty and Lakhe, 2000). He defined product and service quality as the (Feigenbaum, 1991, p. 7):

*“Total composite product and service characteristics of marketing, engineering, manufacture and maintenance through which the product and service in use will meet the expectations of the customer.”*

He defined total quality control as (p. 13):

*“Total quality control's organization wide impact involves the managerial and technical implementation of customer-oriented quality activities as the prime responsibility of general management and of the main-line operations of marketing, engineering, production, industrial, finance, and service as well as of the quality- control function itself.”*

Feigenbaum promotes the concept of company-wide quality management, whereby everyone in the organisation shares responsibility for quality and should seek to detect and correct errors and defects at source. This concept is akin to those of Deming, Juran, and Crosby. Feigenbaum proposes a three-step process to improving quality. These steps involve (Foster, 2001):

- Quality leadership.
- Quality technology.
- Organisational commitment.

Krüger (2001, p. 152) pointed out that Feigenbaum offers a highly structured approach to total quality. He added that this approach does not cover the “*question of motivation and commitment of the individual employee to quality*”.

### **3.5.5. Kaoru Ishikawa**

Ishikawa was influenced by the work of Deming, Juran, and Feigenbaum, and is credited with the conception and introduction of the practice of quality circles (Flood, 1993). He was the first quality guru to emphasise the importance of the ‘internal customer’, who is regarded as being the next person in the production process. Ishikawa is the most famous Japanese contributor and is widely regarded as the father and pioneer of ‘quality circles’ in Japan. He developed the fishbone diagram (also called the Ishikawa diagram), as well as other important tools of the quality movement. This helped to improve the capabilities of Japanese organisations in the usage of problem-solving techniques. These tools are: cause and effect, the fishbone diagram, Pareto analysis, histograms, check sheets, scatter diagrams, control charts, process control charts, and satisfaction graphs (Montgomery et al., 2011). According to Mohanty and Lakhe (2000), Ishikawa places the emphasis for effective quality management as follows:

1. Quality function is the responsibility of all departments.
2. Quality begins and ends with education.
3. Training of employees in problem solving, data analysis, and statistical techniques.
4. Process improvement through problem analysis.
5. Employee involvement in quality problem solving.
6. Seven tools of quality control can be used to solve the problems.

According to Krüger (2001), Ishikawa’s philosophy has contributed to and formed a number of important ideas enhancing the understanding of TQM. The main contributions of the quality gurus are summarised in the Table 3. 1:

**Table 3.1: Quality Gurus and their Contributions**

| <b>Quality guru</b> | <b>Main contribution</b>  |
|---------------------|---|
| Edward Deming       | Stressed management’s responsibility for quality.<br>Developed ‘fourteen points’ to guide companies in quality improvement. |
| Joseph Juran        | Defined quality as “fitness for use”.<br>Developed the concept of cost of quality.  |
| Philip Crosby       | Coined phrase “quality is free”.<br>Introduced concept of zero defects.   |
| Armand Feigenbaum   | Introduced concept of total quality control.  |
| Kaoru Ishikawa      | Developed cause-and-effect diagrams.<br>Identified concept of the ‘internal customer’.                                      |

The quality gurus’ contributions have significantly underwritten to the development of quality concepts. In so doing they have increased the attention of researchers, practitioners, companies and organisations on the concept of quality as a means to improve the level of performance, and also as a means to improve the quality of products, in addition to leading to the emergence of numerous quality awards, which aim to improve quality and increase competition between organisations. The next section reviews certain of these awards models.

### **3.6 Award models as effective approaches to TQM**

In recent years, countries around the world have begun to institute quality awards, with a view to promoting awareness of quality within the productive process and with the aim of fostering the exchange of information. This encourages organisations to adopt new strategies for the improvement of quality and productivity. These awards recognise those organisations that have implemented successful programmes (Evans and Lindsay, 2001). Ghobadian and Woo (1996) outlined the main goals of quality awards as engendering the ability to enhance the competitiveness of organisations, increase the awareness and success of the deployment of TQM, encourage organisations in continuous improvement of products and services, encourage the use of methods of self-assessment, and to promote understanding of the requirements for achieving quality and customer satisfaction.

This part of the study aims to discuss the award models for business excellence. The most widely known models in the world are the Deming Prize, the Malcolm Baldrige National Quality Award, and the European Quality Award.

#### **3.6.1 Deming Prize**

The Japanese Union of Science and Engineering (JUSE) instituted the Deming Prize in 1951, in recognition of Dr W. Edwards Deming's contribution to the development of industry quality in Japan. The Deming Prize is given to organisations that have made great efforts in the improvement of quality, and that have achieved significant improvement in performance. Competition for the Deming Prize was opened to foreign companies in 1984. The quality criteria for the Deming Prize are (Pfeifer, 2002):

1. Top management leadership, vision, and strategies.
2. TQM frameworks.



3. Quality assurance systems.
4. Management systems for business elements.
5. Human resource development.
6. Effective utilisation of information.
7. TQM concepts and values.
8. Scientific methods.
9. Organisational powers (core technology, speed, vitality).
10. Contribution to realisation of corporate objectives.

More than 200 organisations have been awarded the Deming Application Prize (The Deming Prize Guide, 2011), as a result of what they have achieved namely, a significant leap in the quality of their products and services. This award has played an important role in effective competition, and has improved the output of organisations from 1951 to the present. It can be concluded that the most important benefits and effects of the Deming Application Prize are quality stabilisation and enhancement, productivity improvement and cost reduction, expansion of sales, increase of profits through implementation of management and business plans, enhancement of participation and improvement skills, and raised morale and motivation of employees (The Deming Prize Guide, 2011).

### **3.6.2 Malcolm Baldrige National Quality Award (MBNQA)**

The Malcolm Baldrige National Quality Award was established in 1987. It is intended to promote awareness of the importance of quality improvement to the national economy, recognise organisations that have made substantial improvements in products, services, and overall competitive performance, and foster the sharing of best-practice information among US organisations (Goetsch and Davis, 2010). The Malcolm Baldrige criteria for performance excellence has played a valuable role in helping organisations improve their performance, by focusing on the delivery of ever-improving value to customers and enhancing the organisation's

overall performance. The Malcolm Baldrige award also aims to promote quality awareness of performance excellence as an important element in competitiveness, to recognise the quality and business achievements of US organisations, and to publicise these organisations’ successful performance strategies (NIST, 2011). As a result, the number of US organisations implementing comprehensive quality improvement strategies has increased significantly over the past few years (Ahire et al., 1996). The award criteria (2009–10) reflect the requirements of performance excellence in seven categories, with a maximum total score of 1000. The seven categories are:

**Table 3.2: Performance Excellence (2009–10)**

| Award categories                                | Points      |
|---|-------------|
| Leadership                                      | 120         |
| Strategic planning                              | 85          |
| Customer focus                                  | 80          |
| Measurement, analysis, and knowledge management | 90          |
| Workforce focus                                 | 85          |
| Customer focus                                  | 85          |
| Results   | 450         |
| <b>Total points</b>                             | <b>1000</b> |

Source: NIST (2009a)

The seven criteria categories are integrated into a model as shown in Figure 3.3

**Figure 3.2: Baldrige criteria for performance excellence framework (2009–10)**



Source: NIST (2009b)

Each category consists of items including the basic requirements that must be the focus of organisations competing for the award (Evans and Lindsay, 2001). Many organisations use these criteria to evaluate their own performance and set quality targets, using it as a guide to the application of quality programmes and the improvement their operations. Organisations that have received the Malcolm Baldrige National Quality Award have found benefits such as an increase in new product sales, increased workforce involvement and empowerment, improved services and productivity, greater customer satisfaction, increased return on assets and equity, increased market share, and increased revenue (NIST, 2011).

### **3.6.3 The European Quality Award (EQA)**

The European Quality Award (EQA) was established in 1991 by the European Foundation for Quality Management, with the support of the European Organisation for Quality and the European Commission. *“The purpose of this is to enhance the position of Western European companies in the world market by accelerating the acceptance of quality as a strategy for global competitive advantage and by stimulating and assisting the development of quality improvement activities”* (Bohoris, 1995, p. 32).

Ghobadian and Woo (1996) indicated that the award’s main function is to promote and support the implementation of effective strategies for TQM at European organisations. They further asserted that the primary aim of the EFQM is to strengthen the international competitiveness of European industries and commercial interests, through improvements to the strategic role of quality in organisations. According to Sallis (1993), the award aims to recognise organisations that are paying exceptional attention to total quality, to focus attention on business excellence, and to provide a further stimulus to organisations and individuals to develop business improvement initiatives and quality. This award has contributed to the competition between

European organisations, both among themselves and at a global level, which has led to more attention being given to issues of quality, leading to a contribution to the improvement of the service quality and productivity of European organisations. The EFQM excellence model gives the opportunity for organisations to be assessed internally, offering benchmark and comparison results with other competitors, providing the basis for sustainable excellence and a holistic framework, which covers the whole organisation and generates improvement activity from a systematic method of self-assessment (EFQM, 2012).

The excellence model employed by the EFQM consists of nine criteria, five of which are ‘organisation areas’ and four of which are classified as ‘results’. The organisation areas include the activities of an organisation; they are those basic areas of the business that need to be optimised to achieve its desired objectives. The results criteria include analysis of what a company has achieved in the past and is achieving at present (EFQM, 2010). Figure 3.3 is an illustration of the framework of the European Quality Award.

**Figure 3.3: The structure and criteria of the EFQM excellence model (EFQM, 2010)**



Source: EFQM (2010)

Each of the elements shown in the model is a criterion that can be used to assess the organisation's progress towards Total Quality Management (Costing, 1994). The EFQM model consists of nine factors or categories: five enablers (describing leadership, policy and strategy, people management, partnerships and resources, and management of processes that are concerned with how results are being achieved) and four results (describing the satisfaction or created value of all stakeholders; people results, customer results, society results, and key performance results, those concerned with what the organisation has achieved and is achieving).

In general, these three award models provide a universal framework for assessing the quality of management practices in organisations, whether industrial or service. Thus it provides a framework for the identification of set processes to be applied, which contributes to the overall implementation of TQM and improves the performance of the organisation. Despite the different cultures of the countries that grant these awards, they share the core elements of quality management, in that all three awards emphasise the role and the importance of top management and leadership, the education and training of employees, strategy and policy, information, employee participation, human resource management, and customer focus. In addition, the three quality award models provide organisations with a means to measure their position by a set of international standards, identifying their strengths and weaknesses in the practice of quality management and business results.

#### **3.6.4 ISO 9000 certification**

ISO 9000 was published in 1987 by the International Organisation for Standardisation (ISO), and is granted to organisations able to demonstrate that they have reached a certain standard of quality control.

The standards were revised in 1994, 2000, and 2008. ISO 9001, 9002, and 9003 were then combined and renamed ISO 9001 in the 2000 version. The latest version of ISO 9001 was in 2008, where the International Organisation for Standardisation (ISO) agreed on an implementation plan to ensure the smooth transition to a new set of accredited certificates known as ISO 9001 (2008), which is the most recent version of this widely adopted standard for quality management systems (QMS).

ISO 9001 provides a set of standardised requirements for a quality management system, regardless of the user organisation's industry, size, or whether it operates in the public or private sector. In the family of ISO standards, it is the only one against which organisations can be certified – although certification is not a compulsory requirement of the standard. The ISO 9001:2008 standard is suitable for organisations that require an established pathway to follow in order to take a systematic approach to the management of processes, so that they can consistently produce goods and services to satisfy the expectations of their customers.

The documents produced by ISO provide standardised descriptions of principles of quality management as they appear in ISO 9000. They additionally provide examples of the benefits derived from implementation and of actions that managers typically take in applying the principles in order to improve the performance of their organisations. These principles are (ISO, 2008):

1. Customer focus.
2. Leadership.
3. Involvement of people.
4. Process approach.
5. System approach to management.
6. Continual improvement.

7. Factual approach to decision-making.
8. Mutually beneficial supplier relationships.

ISO 9000 covers the fundamentals of the quality management system. It is an important reference document for those wishing to understand the related terms and vocabulary. ISO 9004 consists of the guidelines for performance improvement, offering guidance for continual management system improvement. ISO 9001 is the system requirements. It is used to assess compliance with requirements, and it is intended for use in any organisation that designs, develops, manufactures, installs, and/or services any product; or that provides a service of any form. It specifies the requirements that an organisation must fulfil in order to satisfy its customers, including the requirement for the continual improvement of the quality management system (Stevenson and Barnes, 2002).

The importance of adopting the series of ISO 9000 standards is stressed by Gilbert (1994), who asserts that they can be employed in organisations to develop and document the QMS practices. Dale (2003) pointed out that the aim of the ISO 9000 series is to give purchasers an assurance that the quality of the product and/or service provided by a supplier meets their requirements. In addition, Motwani et al. (1996) mentioned that the aim of ISO standards is to eliminate trade barriers between countries through the promotion of standardisation. It facilitates the international exchange of goods and services, and the development of international economic, technical, and intellectual cooperation.

However, ISO 9001 is periodically reviewed in order to ensure that its relevance is maintained, and that it stays abreast of developments in the fields of industry and services, as well as to improve specifications according to international standards. Therefore, the issuance of the ISO 9001: 2008 standard was suitable for organisations that require an established pathway to follow

in order to take a systematic approach to the management of processes, so that they can consistently produce goods and services to satisfy the expectations of their customers. It provides a set of standardised requirements for a quality management system, regardless of the user organisation's industry, size, or whether it operates in the public or private sector. Therefore, the issuance of ISO 9001 in 2008 constitutes a significant shift towards the implementation of TQM in the services sector.

### **3.7 TQM in the service sector**

The emergence of TQM in the course of the past three decades has been one of the most important developments affecting the management practices at organisations. TQM first appeared in the US in the early nineteen eighties, in response to the challenges and intense competition faced by US organisations from Japanese companies (Dotchin and Oakland, 1994; Prajogo, 2005; Kumar et al, 2011).

TQM has its roots in industrial organisations, and is based on the concepts and teachings of respected gurus and practitioners in the field of quality management (Silvestro, 2001). Researchers began to transfer the principles of TQM, to service organisations, following the successful implementation of TQM in manufacturing (Cowling and Newman, 1995; Prajogo, 2005). It has been argued that the fundamental differences that distinguish the work of manufacturing companies from that of service organisations, their use of tools and techniques, and the heterogeneity of output between these sectors (Silvestro, 1998; Prajogo, 2005), all suggest that certain factors could impede TQM implementation in the services sector. However, TQM has been implemented widely in service organisations since the early nineteen nineties, to improve their processes, levels of service, organisational performance and ability to compete in the market. Therefore, organisations can be seen to have developed and implemented TQM to



produce high quality products and services, which meet customer expectations, and achieve business excellence (Cowling and Newman, 1995).

TQM is now accepted as a management philosophy that embodies a set of generic core principles unconstrained by industry-specific considerations; these underline its suitability for all types of organisation, as its aim is to improve all functions within an organisation, and all levels of the business (Prajogo, 2005). This is affected through the use and development of the “soft” aspects of TQM, which focus on attitudes and behaviour such as leadership, customer focus, empowerment, involvement, training, benchmarking, continuous improvement, and cultural elements. These aspects have encouraged the implementation of TQM in the service industry without necessarily enforcing the use of tools and techniques incompatible with the service sectors (Lemak and Reed, 2000; Woon, 2000; Prajogo, 2005; Kumar et al, 2011). Furthermore, various highly rated models emphasise different TQM factors as recognised with notable quality awards such as the Deming Prize, the European Quality Management Award for Business Excellence, the Malcolm Baldrige National Quality Award (MBNQA) for Performance Excellence, etc. (Flynn et al, 1994; Black and Porter, 1996).

Dotchin and Oakland (1994) state that considerable importance has been attached to the service sector by academics, practitioners and businesses in the past few decades. According to Gummesson (1994) there are two reasons for this increased attention. Firstly, services have become an important part of the economy. Secondly, service quality has become a key factor in achieving competitive advantage and business excellence for both service and manufacturing organisations. In addition, Ghobadian et al, writing in 1994, pointed out that over the three decades preceding their work, the service sector had become the dominant element of the

economies of industrialised nations. For instance, in 1989 the service sector contributed to the gross domestic product (GDP) of countries as follows: 69% in the USA; 67% in France; 62% in the UK; 60% in Germany; and 56% in Japan (Ghobadian et al, 1994). This interest is increasing because of the intense competition among service companies, and the increasing number and variety of service organisations such as; banks, hotels, airlines, education, health, restaurants, solicitors' firms, retailers, entertainment, insurance companies, advertising agencies, consultancy firms, market research companies, communications, transport, and information. Furthermore, according to Dotchin and Oakland (1994), Lakhe and Mohanty (1995), and Mohanty and Behera (1996), some important factors leading to a focus on the services sector include the increasing involvement of private sector and non-governmental agencies in the service industries, and the growing number of people employed in the service sector. Furthermore, one must consider the improving health and education of people in developed countries, which has led to the increasing development of health-care and education systems, and the enormous development of technology and communication which has given rise to growing competition between communications companies and created a set of other services to fulfil leisure customer's needs.

A number of research studies have been conducted to investigate TQM implementation in different service organisations (Dotchin and Oakland , 1994; Badri et al, 1995; Mohanty and Behera, 1996; Black and Porter, 1996; Silvestro, 1998; Woon, 2000; Lemak and Reed, 2000; Tsang and Antony, 2001; Mellahi and Eyuboglu, 2001; Prajogo, 2005; Rad, 2005, 2006; Al-Marri et al, 2007; Salaheldin and Mukhalalati, 2009; Kaluarachchi, 2010; Kumar et al, 2011; Talib et al, 2011a; Valmohammadi, 2011). These studies aimed to investigate the service sector and its practices, as well as the implementation of TQM, with a view to improving organisational performance. Thus, Tsang and Antony's (2001) study on TQM in UK service organisations found customer focus to be the most successful driving factor for TQM programmes in UK service

organisations. In addition, it identified customer focus, continuous improvement, top management commitment, recognition, teamwork, and employee involvement as being amongst the highest ranking concerns in these organisations.

Woon (2000) conducted a comparative study to identify TQM implementation levels in service and manufacturing organisations. It found that there was no significant difference between the two sectors with regard to the “soft” factors of TQM; i.e. top management, human resources, and customer focus. The research also revealed that the service organisations had a lower level of TQM in “hard” factors such as the use of statistical tools in relation to analytical processes, quality performance, and process management. This indicates that the “soft” aspects of TQM are more applicable to service organisations than the “hard” aspects. Similarly, Prajogo’s (2005) study compared the implementation of TQM and quality performance in service and manufacturing organisations in Australia. It found no significant difference between these sectors in respect of the level of most TQM practices and quality performance. Prajogo noted that this positive result supports and confirms the applicability of TQM principles and practices in the service organisations in spite of many differences in the nature of their operations. In the same vein, Kumar et al. (2011) studied the implementation of TQM in Indian industrial and service organisations. They observed that implementation of TQM success factors was critically important for both sectors, but that they ranked differently in manufacturing and service companies.

Mellahi and Eyuboglu (2001) investigated the key factors for successful TQM implementation in the Turkish banking sector. Their findings revealed that successful TQM implementation requires the following: management’s enthusiasm and unwavering commitment to TQM; formal national

bodies to introduce organisations to TQM and provide assistance during and after its implementation; and a highly educated and competent management team. In addition, this research provides evidence to suggest that there are strong similarities between critical success factors for TQM implementation in developed and developing countries. Al-Marri et al. (2007) found sixteen factors critical to the successful implementation of TQM in the UAE banking sector. He concluded that TQM is important to sustain competitive advantage in service-oriented organisations, in particular in the banking sector. Similarly, Naeem et al. (2008) explored implementation levels at commercial banks, revealing that most banks were in the preliminary stages of implementation, and that certain other banks had already implemented TQM fully in the Pakistani banking system. Kayis et al (2003) carried out a comparative study of TQM implementation between the Australian and Korean banking industries. In both countries they found TQM practices to be linked to employee satisfaction, and also to customer satisfaction and loyalty. However, they also identified obstacles to TQM implementation.

Salaheldin and Mukhalalati (2009) examined TQM implementation in the healthcare sector in Qatar. Their findings show that managers agree that top management support as well as employee training and involvement are significant where the aim is continuous improvement in TQM implementation in the public and the private healthcare sector. Kaluarachchi (2010) investigated TQM implementation efforts in Sri Lankan hospitals. He found TQM activities to have been successful as TQM implementation and a culture supportive of TQM practices has meant that hospitals have won several national quality awards for being more responsive to customers' requirements. In a similar study, Talib et al. (2011a) examined the best practices of TQM implementation in Indian health care institutions. They found eight TQM factors including top management, teamwork and participation, customer focus and satisfaction, resource management,

process management, organisational behaviour and culture, training and education, and continuous improvement to be considered critical to successful TQM implementation, and highly effective in health care institutions. These factors have been identified as playing an important role in improving the quality of health care institutions.

Brah et al. (2000) found that TQM implementation led to improved financial and business performance in the service sector of Singapore. They identified “soft” factors critical to successful TQM implementation in the service sector, including; top management support, customer focus, employee involvement, employee empowerment, and quality improvement rewards. Samat et al. (2006) investigated the relationships between TQM practices and service quality, and TQM practices and market orientation in the service sector in Malaysia. The results of this study revealed that customer focus, continuous improvement, information and communication, and employee empowerment have a significant effect on service quality, whereas only employee empowerment and customer focus similarly affect market orientation. Research by Ooi et al (2011) indicated that TQM practices have a positive impact on service quality and customer satisfaction in small service firms in Malaysia.

Overall, these studies form part of a larger body of work conducted in service sectors such as health care, banks, education, hotels etc. Most of which have found that rather than implementing the “hard” aspects of TQM, service organisations focus on the “soft” factors such as top management commitment, customer focus and satisfaction, training, continuous improvement, empowerment employees involvement, and benchmarking. TQM was implemented in service organisations in order to help it survive in a climate of intense competition, to enhance their position in the market, to satisfy increasing customer demand for better service; as a result,

service companies sought to improve their processes, enhance service quality, focus on customer satisfaction and achieve high of levels of financial and organisational performance. In addition, many service organisations have granted international awards for quality such as the Deming Prize, European Quality Management Award for Business Excellence and the Malcolm Baldrige National Quality Award (MBNQA) for Performance Excellence. These are attainable through implementation and fulfilment of the conditions and requirements for quality in the business, health care, education, and non-profit sectors. Thus, TQM has been implemented successfully by many services and industrial organisations in both developed and developing countries.

### **3.8 The movement towards TQM in developed and developing countries**

Several organisations in developed countries have begun to enjoy the benefits of TQM. In particular, those in Japan, the USA, and Western Europe have implemented TQM as a means of maximising customer satisfaction, gaining better product and service quality, achieving productivity improvement and increased profitability, and reducing quality costs. Many organisations in developing countries consequently wish to follow this example, but are hindered by their lack of knowledge on TQM implementation (Madu, 1997; Al-Khalifa and Aspinwall, 2000).

#### **3.8.1 TQM in developed countries**

Japanese companies were the first companies interested in issues of quality. They achieved significant success across the world as a result of directing more attention towards quality. In the 1940s, extensive efforts were made to promote quality control through the Japanese Union of Scientists and Engineers, which provided educational programmes in quality control to Japanese organisations (Lakhe and Mohanty, 2000). In 1950, Deming was invited to teach on statistical quality control (SQC). Deming is considered to be the quality guru who contributed most to the

development of quality management in Japan, and in recognition of his contribution, the Japanese government instituted the annual Deming Prize for quality in 1951. From 1955 to 1960, the attention on quality increased widely in Japan, especially in light of Deming and Juran, who gave a series of lectures to the leaders of Japanese companies. It was in this period that quality control activities began to receive the backing of top management, and organisations began to institute programmes of company-wide quality control. Ishikawa (1985) identified certain aspects of the most important factors in implementing successful quality control programmes in Japanese companies as follows: involvement by top management, emphasis on training and education, use of awards, use of informal quality control circles, formal organisation of quality, and long-term commitment to the process.

At the end the 1970s, American management began to recognise and accept that many successful Japanese products had gained access to American markets, which was, in fact, the result of high-quality products coupled with low prices. The realisation that quality management and quality control were critical elements in Japan's market success finally led the American industry to focus on quality management and statistical techniques (Lakhe and Mohanty, 2000). Garvin (1986) directed further attention to the management of quality as a critically important element for the potential successful recovery of market share by US organisations. These ideas brought about some conceptual changes in the traditional approach to quality management.

In terms of European countries, they have sought to achieve political and economic integration in European markets, which led to improve the quality of products and services, and increase the competitiveness of organisations. The focus is on a move towards quality improvement processes, the introduction of quality-related training, and a concern for adapting the relationship of an organisation with the outside world through the pursuit of quality (Lakhe and Mohanty, 1994).

For more than twenty years, one of the major issues of European policy was the promotion of strategies and a variety of quality programmes aimed at developing and improving countries in the European Union. This was mainly achieved through community support frameworks. Over the course of the last fifteen years, programmes of this sort have been rolled out across Europe, even across countries such as Portugal and Ireland. The principal goal of these programmes was the institution of systems for long-term research, technology, and policies to promote innovation. As part of this process, many quality awards were developed, usually based on the European business excellence model (EFQM). The self-assessment of quality is now being widely adopted in all kinds of organisations through the EQA, and through other awards based on it (Mavroidis, 2007). While all EU countries share a similar motivation for the development of quality awards, differences exist in their implementation. Although almost all EU countries have developed initiatives and strategies to facilitate the introduction of TQM in their organisations over the last fifteen years, it is also true that most of the decisions regarding the creation of various types of awards are closely related to the political situation in the given country: its laws, the extent of the interaction and dependence between the state on one hand and the private sector on the other, and finally on the prevailing philosophy of business and administrative cooperation that already exists (Mavroidis, 2007).

Moreover, there is some evidence that the practice of TQM is not restricted to manufacturing companies, but is also widespread in the service industries of European nations. The realisation that quality is not only related to product features, but also to every aspect of business, has given a real boost to TQM in these countries. This is reflected particularly in the level of top management commitment, which ensures better investment, rewards to employees, and a commitment to treating everyone equally (Lakhe and Mohanty, 2000).



### **3.8.4 TQM in developing countries**

Crosby (1995) stated that the only means for developing countries to increase trade activities on a sustainable basis is to increase the quality of their products and services (cited in Djerdjour, 2000). Feigenbaum (1991) asserted that, in an increasingly competitive world, it is no longer acceptable to see quality as an extra or merely desirable goal, rather it must be regarded as an indispensable strategy; competitiveness and even survival are not possible without it. The production of high-quality goods and services requires a level of total commitment from the whole of an organisation; from top management to the newest recruit, TQM must be in the mind-set of each individual. In the light of increasingly competitive markets, changes in global trade, adjustment to import-export policies, and the wealth of information (and choice) available to the customer, it is necessary for all countries (especially those which are developing) to be making systematic efforts towards the implementation of quality programmes across all their institutions and businesses. A realisation is growing among commercial companies, in particular, that their growth, and also to an extent their very survival, depends on issues of quality. In the developing world, some firms are attempting to reorient themselves and obtain sufficient help from foreign partners to accelerate their quality drives (Lakhe and Mohanty, 2000). This help can be invaluable, as in developed countries the quality movement has been underway for quite some time; meanwhile in developing countries the quality movement has only been adopted recently. The present urgency to implement quality programmes in developing countries has many causes, among which are:

1. Changes in their economic and trading policies.
2. Increased foreign investments.
3. Opening their markets to the free market system.
4. Increased competition in local and international markets.

Many developing countries have opened their doors to external competition. According to Mandal et al. (2000) and Akdag (2007), countries in the Middle East, South America, Arab countries, and nations such as Malaysia, China, India, and Singapore have embraced concepts of TQM in order to improve their productivity and competitiveness in international markets.

### **3.8.5 TQM in Arab countries**

In Arab countries, the pace of the implementation of TQM is not progressing at the same rate as in those countries which are more developed (Al-Khalifa and Aspinwall, 2000; Al-Zamany et al., 2002). However, there is increasing awareness and understanding of quality management in the Arab region (Dedhia, 2001). Until recently most countries in the Arab world were formerly unaware of the impact of quality management on the productivity, efficiency, and competitiveness of their organisations. In fact, two trends can be considered as the driving forces of quality management practice in Arab countries: globalisation and the fluctuation of petroleum and gas prices in the world market (Al-Khalifa and Aspinwall, 2000). The dependence of the national economies of most Arab countries on the price of oil and gas, and the cyclical rise and fall of petroleum products in the world market, has forced them to implement quality management in these, as well as other, industries; including public and private, services, 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 these countries, especially in the Arab region (Al-Khalifa and Aspinwall, 2000). Early studies on the implementation of quality management in Arab countries began around 1995, and studies such as those of Badri et al. (1995), Al-Khalifa and Aspinwall (2000), Al-Zmany (2002), Chapman and Al-Khawaldeh (2002), Baidoun (2004), Al-Marri et al. (2007), and Salaheldin (2009) have

addressed the implementation of TQM and the challenges and problems facing organisations in the Arab countries. These studies were further enhanced by a limited amount of national empirical research. The first study of this kind was implemented in the United Arab Emirates by Badri et al. (1995), who identified TQM implementation factors for quality management practices, which included top management leadership, the role of the quality department, training, product design, supplier quality management, process management, quality data reporting, and employee relations. Identifying the most important factors, they suggested that training, product and service design, supplier quality management, and employee relations were all extremely important in both manufacturing and service organisations.

Al-Khalifa and Aspinwall (2000) studied an approach to the understanding of the level of implementation of TQM in Qatar on a national basis, and the results suggested that the level of understanding of TQM in the organisations surveyed was low. The short history of Qatar's TQM implementation, lack of information, education, and training, and lack of understanding of TQM processes as they are practiced in developed economies were reported to be the principal barriers to TQM implementation in Qatar.

Another study that has contributed to the understanding of TQM implementation in Middle Eastern countries is that of Chapman and Al-Khawaldeh (2002), which investigated the relationship between labour productivity and TQM in Jordanian industrial companies. The study found that the productivity of employees was enhanced in companies that had TQM, when compared to companies with no TQM structure. Another study conducted in Yemen by Al-Zamany et al. (2002) assessed the level of understanding of TQM in the country, and the difficulties facing the implementation of quality management in Yemen. In addition, Al-Marri et al. (2007), who examined the critical success factors of TQM implementation in the United Arab Emirates (UAE) banking sector, found that more organisations were becoming involved in

implementing TQM, making it essential for the banking sector in particular, and other service-oriented organisations in general, to sustain competitive advantage. Salaheldin (2009) identified the critical success factors of TQM implementation in small- and medium-sized enterprises (SMEs) in the Qatari industrial sector. He found that there was a substantial positive effect of TQM implementation on both operational and organisational performance. The results displayed the central role of the strategic factors in the successful implementation of TQM programs within SMEs.

According to Raghunathan et al. (1997), there may be opportunities for developing countries to learn from the successes and failures of the quality practices employed in developed countries. Developing countries should be helped in their evolution, as they will eventually become potential competitors, while offering a possible market to developed economies at the same time.

### **3.9 Chapter summary**

This chapter has provided an overview of the literature on the fundamentals of TQM, in order to understand of the theory informing the concept. It reviewed the various definitions and history of TQM, the influence of quality gurus and the knowledge and ideas that contributed significantly to the philosophy and principles of TQM. This chapter also reviewed three models of quality awards for business excellence: the Deming Prize, the European Quality Award (EQA), and the Malcolm Baldrige National Quality Award (MBNQA). This was followed by a discussion of the ISO 9000, which aims to integrate and harmonise similar quality management standards into a single body of international quality principles that can be applied to world trade and commerce. A review of the movement towards TQM in developed and developing countries was also discussed, to ascertain how far along they are in establishing quality procedures, and also what lessons can be

learned and transferred. In the next chapter, TQM implementation factors, and organisational culture types will be deliberated upon.

## **Chapter Four: TQM implementation factors and organisational culture**

### **4.1 Introduction**

Based on the review of the literature undertaken to detail the theoretical background to TQM in Chapter 3, and in order to continue discussion of the TQM literature, it is now necessary to identify those factors of TQM implementation, which are often considered critical to its success, these factors are often stressed by researchers and practitioners when they write about TQM (Saraph et al. 1989; Ahire et al.1996; Flynn et al. 1994; Powell, 1995; Black and Porter, 1996; Oakland; 2003; Dale; 2003; Sila and Ebrahimpour, 2002,2005; and Fryer et al., 2007). Quality practitioners and academics have devoted considerable efforts to identifying those TQM factors that influence the level of product and service quality provided by organisations. One of the objectives of this research is to determine the level of TQM implementation in Libyan banks, and additional objectives of this study are to explore the influence of organisational culture on TQM implementation. Therefore, this chapter will centre on a literature review describing TQM implementation factors, organisational culture types, and the barriers that have affected on TQM implementation

### **4.2 Empirical studies of TQM in developed and developing countries**

The critical factors informing the TQM approach can best be described as practices in which organisations and their employees embark on business activities informed by key processes: leadership, planning, customers, suppliers, community relations, production and supply of products and services, and the use of benchmarking (Sila and Ebrahimpour, 2005). Oakland (1995) defined critical success factors (CSFs) for TQM as those critical areas which an organisation must deliver on, in order to achieve its mission through an examination and

categorisation of its impacts. He adds that these are the minimum key factors or sub-goals that an organisation must employ together to achieve its mission. Saraph et al. (1989, p.812) defined the critical success factors for TQM as “*critical areas of managerial planning and action that must be practiced to achieve effective quality management in business unit*”.

Many studies have been conducted in relation to CSFs, and these have applied a range of different methodologies. Studies include those of Saraph et al. (1989), Ahire et al. (1996), Flynn et al. (1994), Powell (1995), Black and Porter (1996); each focused on a different set of factors. Moreover, these authors have attempted to investigate the CSFs behind successful TQM using different sets of factors.

Saraph et al, (1989) conducted a survey to identify the critical success factors for effective TQM which must exist in a business unit. In this study, the researchers used organisational and managerial aspects of the work as presented by quality management practitioners including Deming, Juran, and Crosby to organise and formulate critical factors. They categorised these prescriptions into eight categories of critical factors, as shown in table 4.1. In the study 162 quality managers and general managers in 20 manufacturing and service companies were surveyed, and the researchers identified a set of 120 quality management perceptions, which they then used to design a set of reliable attribute related measurement scales. In this way they pioneered the development of a valid and reliable instrument for the measurement of quality management practices.

Flynn et al. (1994) categorised critical success factors into seven core dimensions, which were then included in Table 4.1. Their study was based on 42 US manufacturing factories in the machinery, transportation, components, and electronics industries. The study deliberately focused on factories rather than organisations as its unit of analysis, and gathered the perceptions of both

line and managerial level staff. This technique has since been applied to a variety of US manufacturing firms, to discover the effect of quality management practices on quality performance and competitive advantage.

Powell's (1995) study was conducted on the basis of a comprehensive review of TQM literature, and he developed TQM tools for measurement, which were revised through discussion and repeated visits to consultants and quality managers. The final table contained 47 items covering 12 variables. The investigation looked into TQM as an optional source of sustainable competitive advantage, and identified 12 of the factors that are related to critical success, based on the EFQM model, as shown in Table 4.1.

Black and Porter (1996) using the criteria specified by the Malcolm Baldrige Award, identified ten empirically validated critical TQM factors, and these are shown in Table 4.1. Ahire et al. (1996) conducted an extensive review of the prescriptive, conceptual, practitioner, and empirical literature on quality management also based on the Malcolm Baldrige Award criteria. The results of this allowed Ahire et al. to develop, validate, and test 12 constructs to use to measure integrated quality management. This was achieved through an empirical survey of 371 manufacturing firms in the motor vehicle parts and accessories industry, at the level of individual factories. The 12 TQM factors, as given in that study are listed in Table 4.1 below:



**Table 4.1 Comparison of TQM Critical Success Factors**

|           | <b>Saraph et al. (1989)</b>                          | <b>Flynn et al. (1994)</b>  | <b>Powell (1995)</b>          | <b>Ahire et al. (1996)</b>   | <b>Black and Porter (1996)</b>           |
|-----------|--|-----------------------------|-------------------------------|------------------------------|--|
| <b>1</b>  | Role of divisional top management and quality policy | Top management support      | Executive commitment          | Top management commitment    | Strategic quality                        |
| <b>2</b>  | Role of quality department.                          | Customer involvement        | Employee training             | Customer focus               | Customer satisfaction                    |
| <b>3</b>  | Training   | Workforce management        | Flexible manufacturing        | Employee training            | Quality measurement systems              |
| <b>4</b>  | Product service design                               | Process management          | Closer supplier relationships | Design quality management    | People and customer management           |
| <b>5</b>  | Supplier quality management                          | Product design.             | Customer focus                | Benchmarking                 | Operational quality Planning             |
| <b>6</b>  | Process management and operating producers           | Quality improvement rewards | Zero defect mentality         | SPC usage.                   | External interface management            |
| <b>7</b>  | Quality data reporting                               | Supplier involvement        | Process improvement           | Internal quality information | Supplier partnership                     |
| <b>8</b>  | Employee relations                                   |                             | Employee empowerment          | Employee empowerment         | Teamwork structure                       |
| <b>9</b>  |  |                             | Benchmarking                  | Employee involvement         | Corporate quality culture                |
| <b>10</b> |  |                             | Open organisation             | Supplier quality management  | Communication of improvement information |
| <b>11</b> |  |                             | Measurement                   | Product quality              |  |
| <b>12</b> |  |                             | Communication                 | Supplier performance         |  |

In the same context, Tsang and Antony (2001) studied critical success factors for successful implementation of TQM in the UK service sector, developing 11 factors: top management commitment and recognition, teamwork and involvement, training and development, customer focus, measurement and feedback, quality systems and policies, communication within the organisation, supervisory leadership, supplier relationships, continuous improvement, and cultural change. They also found that customer focus was the most successful driving factor for TQM implementation within UK service organisations. Furthermore, supplier partnership or supplier management was the least important factor.

In addition, several studies about TQM implementation have been conducted in developing countries in general and in particular in Arabic countries. Some of these studies have measured the critical success factors for TQM implementation among Arab organisations. For instance, Badri et al. (1995) produced a thorough study of 120 components of quality management practices (QMPs) in the United Arab Emirates. The findings of his study identified eight factors in the practice of quality management at a manufacturing and service organisation. These factors were: the role of the quality department; top management leadership; product design; training; quality data reporting; process management; employee relations; and supplier quality management. When identifying the most important factors, they suggested that supplier quality management, employee relations product/service design, and training were all extremely important in both manufacturing and service organisations.

Zhang et al. (2000) developed eleven constructs for TQM implementation based on a comprehensive review of the literature. The study used data from 212 companies in 9 industrial sectors to test and validating the instrument. The purpose of the study was to develop an instrument for measuring the implementation of TQM by Chinese manufacturing companies. Their constructs of TQM implementation included: leadership, vision and plan statement, education and training, evaluation, customer focus, quality system improvement, employee participation, product design, supplier quality management, reward and recognitions, and process control and improvement.

Al-khalifa and Aspinwall (2001) investigated the suitability of organisational culture in Qatar in relation to the requirements for the implementation of TQM. The study identified ten critical factors for successful TQM implementation, based on an extensive review of the literature. These factors included: measurement and feedback, education and training, management leadership, supplier quality management, systems and processes, continuous improvements to systems,

improvement tools and techniques, human resources management, resources and work environment and culture. The study revealed that the awareness and understanding of TQM was poor, caused by a lack of information/education/training, a lack of top management support, and a lack of human resources.

Baidoun (2003) investigated an empirical study of critical factors for TQM in mixed sectors taken from a sample of Palestinian organisations. His survey covered 78 organisations and tested 31 items describing TQM practices, as sourced from related literature. The study aimed to identify which factors were critical in the effective implementation of TQM, and to understand what techniques were used to implement them by Palestinian organisations. Nineteen quality factors were identified as being critical to the successful implementation of TQM.

Salaheldin (2009), in his study aimed to identify the critical success factors for TQM implementation, to evaluate their impact on the primary measures as expressed by the operational performance of SMEs in Qatar. This study discovered that strategic factors played a central role in the successful implementation of the TQM programmes within the SMEs. The results confirmed a significant relationship exists between operational and organisational performances in SMEs.

Sila and Ebrahimpour (2002) studied the evolution of the 347 survey based research articles published between 1989 and 2000; their findings revealed that the most frequently covered TQM factors were:

1. Customer focus and satisfaction (285);
2. Training (260);
3. Leadership and top management commitment (244);
4. Teamwork (231);
5. Employees' involvement (220);

6. Continuous improvement (216);
7. Quality information and performance measurement (213);
8. Flexibility (191);
9. Strategic planning (181);
10. Process management (174);
11. Employee appraisal, rewards, and recognition (141);
12. Employee empowerment (131).

Thus, many of the studies conducted after this study above used these same factors, or these in combination with others, to better understand the TQM implementation factors.

#### **4.3 TQM implementation factors**

The literature review presented in chapter 3 explored the concepts of TQM as defined by leading writers on quality (e.g. Crosby, Deming, Feigenbaum, Ishikawa and Juran together with the definitions implied by quality awards such as the Deming Prize, MBNQA, and EQA). In addition, several other research studies into TQM implementation, in developed and developing countries have been identified (e.g. Saraph et al. 1989; Ahire et al. 1996; Flynn et al. 1994; Powell, 1995; Black and Porter, 1996; Badri et al. 1995; Al-khalifa and Aspinwall, 2001; Baidoun, 2003; Al-Marri et al. 2007; Fryer et al. 2007; Salaheldin, 2009); such studies and the models produced by their authors have helped organisations in the adoption of comparable factors for the implementation of TQM. The most obvious conclusion to be drawn from these studies is that every organisation applies a set of critical success factors vital to its own successful implementation of TQM (Ghobadian and Gallea, 2001). In addition, the present study collated opinions from academics and experts in Libyan banks about these factors, when conducting the pilot study, in order to confirm these factors. Ten factors have been identified as being critical for successful TQM implementation in Libyan banks, namely:

1. Top management commitment;
2. Customer focus and satisfaction;
3. Quality policy;
4. Employee training;
5. Employee involvement;
6. Employee empowerment;
7. Reward and recognition;
8. Communication and information systems;
9. Benchmarking;
10. Continuous improvement.

The following sections will consider each of these factors and their role in the implementation of TQM:

#### **4.3.1 Top management commitment**

The TQM literature emphasises, the critical role of top management in the implementation of TQM. This is evident through the writings of quality management authors, who broadly agree that leadership in regards to TQM by top management is a major determinant of successful quality management implementation (Baidoun, 2003; Porter and Parker, 1995; Wilkinson et al, 1994). Rivers and Bae (1999) pointed out that top management takes a leadership role and shows a strong commitment at the time of implementing TQM. Emphasis should be placed on convincing employees that TQM is not just the programme of the year', but rather an ongoing process. The top management plays a vital role in the form of direct supervision, involvement in the planning and implementation of certain policies, and also functions as a source of support and motivation for the entire organisation. The senior management of an organisation is required to create a climate of success, which supports the implementation of the entire quality program (Brah and Lim 2006). Besterfield et al. (2003) stated that top management commitment was the

basis of the TQM implementation process, and that it is almost impossible to overstate the influence of the senior management role. Top management is necessary throughout each stage of the process of implementation. According to Evans and Dean (2000) top management is clearly important for an organisation wishing to practice TQM. Much of what managers can do to enhance TQM can be summarised in three processes: establish a vision, live the values, and lead continuous improvement (Evans and Dean, 2000):

**Establish a vision of quality:** The vision adopted by a senior management ought to be clear to all of the organisation's employees, and should be linked to identifying the needs of customers, and convey a comprehensive strategy for achieving the organisation's mission.

**Live the values of quality:** The pursuit of a quality vision requires all employees to commit to the organisation's mission to abide by a set of quality values, such as a dedication to the needs of customers, a desire for continuous improvement, and a commitment to team work. Obviously the bulk of an organisation's employees will look to their senior management to also exhibit these values.

**Lead continuous improvement:** top management committed to quality have a responsibility to lead a process of continuous improvement, which then forms the basis of any TQM efforts. Senior management must be seen to be active in these roles.

Hradesky (1995) emphasised that top management is a crucial component in the success of TQM. It supplies direction with vision, mission, and values statements, and supports the actions necessary to meet TQM goals. By continually monitoring progress, and making adjustments when needed, it helps to keep the organisation moving toward its TQM goals. According to

Besterfield et al. (2005) the top management in an organisation has to set the direction of any efforts to create a customer orientation; including clear and recognisable quality values, and high expectations of other employees. Top management must ensure that strategies are created, together with the systems and methods required to achieve excellence. These strategies and values, once created, should then guide all of the activities and decisions made within the organisation. Top management should develop the skills of the whole workforce and must encourage participation, learning, innovation, and creativity in all employees, through playing a personal role in the planning, communication, and review of organisational performance, and the recognition of employees through a system of rewards. Leaders thereby function as role models, helping to reinforce the organisation's expectations and values, and creating further trends of leadership and initiative in the rest of the organisation.

Sureshchandar et al., (2001, p.382) reported that: *“Top management commitment is the prerequisite for effective and successful TQM implementation. Visionary leadership pertains to the formulation of a long- range vision for the development of the organisation, propagating the vision throughout the organisation, devising and developing a plan of action and finally stimulating the entire organisation towards the accomplishment of the vision”*. Furthermore, according to Al-Khalifa and Aspinwall, (2000) commitment from management is the only way to achieve the implementation and maintenance of the culture necessary for TQM.

Temtime and Solomon (2002) stress that the success of TQM implementation is often due to the top management of the organisation, which constitutes the driving force behind it, and acts as a motivator for the implementation of TQM by creating values, goals and systems to satisfy customer expectations and to improve organisational performance. Moreover, Salaheldin (2003)

found that top management commitment was the most important driving force encouraging the implementation of TQM in Egypt. This is in line with the findings of Sila and Ebrahimpor (2002), who observed that top management commitment is one of the most important aspects to the success of TQM implementation in organisations. Reviewing the literature available between 1989 and 2000, they identified this factor as receiving more attention than any other, as 244 out of 347 surveyed organisations made it their focus. Furthermore, they stress that the important role of top management commitment in the implementation of TQM is indisputable. In the opinion of Kanji (1998), it is necessary for senior management to be involved at all levels in the creation of a total quality management, which should provide a clear vision of the path to the creation of leadership roles. These roles usually include (Kanji, 2008):

1. The existence of strong and shared organisational values (which provide the foundation for the identity of the organisation and are reflected in its mission, vision, strategy and management practices).
2. The development and communication of an inspiring vision.
3. The definition of a mission that states what the organisation represents.
4. The development of a strategy aligned to the mission and vision and able to create a sustainable competitive advantage over competitors.
5. The establishment of an organisational structure and operational mechanisms that facilitate the implementation of the mission, vision and strategy.

Leadership excellence has the greatest impact on the competitive success of an organisation, as a result of an outstanding performance of leaders in all these and other key areas.

Successful TQM requires top management to have quality vision and values, which need to be supported by plans and initiatives for improvement. Top management commitment and leadership are the ultimate drivers of organisational excellence. Quality leaders are supposed to



lead the change process and provide all the guidance, and allocate the resources required. Quality leaders should be able to create a quality environment, and be committed to and responsible for organisational performance. Top management must carry out specific actions, and establish quality goals and make them an integral-part of the business plan. Tang and Zairi (1998) stated that organisations concerned usually have top management exhibiting commitment to establishing a quality culture through resource provision, creating staff awareness in quality improvement and encouraging interaction with customers to understand their needs. According to Deming *“the aim of leadership should be to improve the performance of employees and machines, to improve quality, and to increase output. The aim of leadership is not merely to find and record the failures of employees, but to remove the causes of failure: to help people to do a better job with less effort”* (cited in Goetsch and Davis, 2010, p. 595).

#### **4.3.2 Customer focus and satisfaction**

*“Quality begins and ends with the customer”* (Ross, 1995, p. 205). As mentioned in chapter three (section 3.2), most definitions of quality mean meeting or exceeding the customer’s expectations and emphasising the idea that customers and customer satisfaction is one of the most important features of TQM.

In addition, customer satisfaction is the cornerstone of any successful organisation that is striving to improve its products and services based on feedback from users. Deming (1986) mentioned that the customer is the most important part of the production line; product should be aimed at the needs of the customer. Tsang and Antony (2001, p.133) pointed out that *“Understanding, satisfying and surpassing customer needs and expectations on a continuous basis should be the key goal of TQM. The needs and expectations of consumers have always been in the mind of all employees. It is necessary to identify these needs and expectations and their level of satisfaction”*.

Bergman and Klefsjo (1994) stated that quality has to be valued by customers, and must be determined in relation to their needs and expectations. They added that it is much more expensive to gain a new customer than to keep one who is satisfied or, further even more easily, one who is delighted with a product. Goetsch and Davis (2010) emphasised that keeping employees in touch with customers is critical to forming a customer focus, and stated that the empowerment of employees is a necessary stage when aiming to satisfy customers. They list a range of different ways to keep employees in touch with their customers. This contact may be achieved in person, on the telephone, or indirectly through the analysis of customer feedback data. They state that it is essential to obtain full and accurate customer satisfaction information if customer focused efforts are to be successful. It can be useful for example, to conduct a thorough examination of the company's finished products from the viewpoint of the customer. The collection of data on levels of customer satisfaction should include information such as data on failures encountered at the customer/product interface, and details of the costs of these failures, such as service-call rates, together with analysis and comprehensive reports on customer attitudes towards product quality. Information of this kind can be used in new product development (Feigenbaum, 1991).

According to Motwani (2001), all external customer service programmes should include the provision of timely advice and information to customers; including systems to provide a rapid response to complaints, and data collection channels to record the quantity and nature of questions or complaints received, while recognising that success is measured by those activities which show a measurable improvement in customer satisfaction and retention, and do not merely involve monitoring people's work.

Goetsch and Davis (2010) pointed out that companies that have successfully established a customer focus share common characteristics. Whitely (1991) suggests that these characteristics can be divided into seven clusters which are:

- Vision, commitment and climate;
- Alignment with customer;
- Willingness to find and eliminate customer problems;
- Use of customer information;
- Reaching out to customers;
- Competence, capability and empowerment of people;
- Continual improvement of products and services.

Goetsch and Davis (2010) suggest that effective quality management is built on the foundation of customer focus. The customer is at the very heart of the organisation's decision-making. A customer focus means: (1) the customer must always be the organisation's highest priority; (2) customers define quality and value; (3) loyal, lifelong customers are essential for long-term success.

### **4.3.3 Quality Policy**

Quality policy is a guide for everyone in the organisation in terms of how they should provide products and service to customers (Besterfield et al., 2003). According to Thiagarajan and Zairi (1997) quality policy is the starting point of the implementation of total quality management. Olian et al. (1991) stated that quality policy is a critical factor in the implementation of TQM through policy development to ensure employee understanding of the organisation's objectives and how to achieve these objectives. Tsim et al. (2002) mentioned that quality policy should be established and well communicated to management and employees in the organisation by top management.

According to Thiagaragan et al. (2001) an early responsibility of top management is the development of an organisation quality policy incorporating a statement of mission/vision, quality goals and guiding principles. This was supported by Oakland (2003), who stated that top management should accept the responsibility for commitment to a policy that deals with quality within the organisation, including customer needs, the ability of the organisation, supplied materials and services, education and training and review of the management systems for continuous improvement. In the same vein, this was supported by Baidoun and Zairi (2003), for whom top management is responsible for developing a comprehensive policy based on clear vision and mission statements, including quality goals effectively deployed at all levels of the organisation to ensure common understanding of the organisation's expectations and direction, to achieve organisation-wide commitment.

Goh and Ridgway (1994) pointed out that the quality policy should have its objective, vision, and mission reflected in the quality of products and services, and in its commitment to its customers. This quality policy must be made known to all employees and widely publicised and understood at all levels of the organisation. According to Oakland (2011) it is important that every organisation clearly communicates its policy: once it is developed and stated, the arrangements necessary for the implementation of a quality policy should be communicated throughout the organisation, so that its content is made known to all employees. TQM cannot be achieved without these necessary steps being put in place.

Goetsch and Davis (2010) stated that quality policy is the process whereby organisations develop a vision, a mission, guiding principles, broad objectives for achieving those broad objectives. Oakland (2003) stated that a policy is concerned with how an organisation implements its

mission and vision; a clear stakeholder-focused strategy is supported by relevant policies, plans, objectives, targets and processes. Oakland also suggested six basic steps towards a general policy and strategy for achieving and providing a good foundation for the implementation of TQM:

1. Develop a shared vision and mission for the business/organisation.
2. Divide the 'mission' into its critical success factors (CSFs) to move it forward.
3. Define the key performance outcomes as being the quantifiable indicators of success in terms of the mission and CSFs.
4. Understand the core processes and begin process sponsorship.
5. Break down the core processes into sub-processes, activities and tasks and form improvement teams around these.
6. Ensure process and employees alignment through a policy deployment or goal translation process.

The development of a quality policy, according to Baidoun (2004), should reflect the mission of the organisation, including its expectations, customer focus and corporate values. Zairi and Youssef (1995) stated that the development of a comprehensive corporate quality policy requires senior managers to play an important role: it is always necessary that any policy be founded on a clear statement of the vision and mission of the organisation, which includes quality goals that should be a primary focus of top management commitment.

Crosby (1979) stated that a quality policy is the main criterion for the practice of quality management; it sets priorities as a consequence of its influence on the performance of the organisation, and shows managers and employees what should be done and what not to do to improve the quality of services and products.

#### **4.3.4 Employee training**

Goetsch and Davis (2010) defined “*training as an organised, systemic series of activities designed to enhance an individual’s work related knowledge, skills, and understanding or motivation*” (p.262). Tsang and Antony (2001) stated that training helps to improve employee’s confidence and hence improves their personal development. Training is the primary practice that organisations use to develop particular skills in employees; skills that are necessary for carrying out quality principles. Dale and Bunney (1999) mentioned that there is no doubt that the training and education of all employees in an organisation is vital to ensure that a continuous quality improvement process will be ongoing and that staff perceive and understand the meaning of quality.

Every organisation has a basic responsibility to educate and train its employees, but this responsibility becomes much more central to an organisation’s success when the organisation attempts to introduce quality programmes such as TQM. Deming, Juran and Crosby indicate the importance of training to the quality management of organisations by describing such organisations as learning centres in which employees continually adapt to new work roles and tasks (Tsang and Antony 2001). Ishikawa (1985) added that quality begins and ends with training.

Oakland (1995, p. 309) believes that: “*training is the single most important factor in actually improving quality and business performance, once there has been commitment to do so. For training to be effective, however, it must be planned in a systematic and objective manner*”. He also adds that quality training must be continuous to keep pace with changes in technology and the environment in which the organisation operates, its structure, and perhaps most important of all, changes to the people who work there. According to Kanji and Asher (1996), one of the key

elements of total quality, that which makes the largest demands on an organisation's human resources is training: therefore, the successful implementation of TQM depends to a large extent on how well training is performed. They add that the purpose of TQM training should be not only to change people's behaviour, but also to provide them with the skills and confidence they need to operate in new ways and to implement new business practices. Training should also help them to adopt an attitude of commitment to TQM by accepting the various changes involved in its implementation, and working to continuously improve quality processes.

Porter and Parker (1993) have pointed out that to ensure the success of the training process in the field of TQM, it must be viewed as a continuous process; training must involve planning for the future to include the development of total quality skills and techniques, and training materials must be customised to suit the programmes required by the organisation.

According to Rao et al., (1996), training in TQM needs to be directed at all levels of the organisation; this is because managers who understand the TQM process are not only able to break down barriers within their own organisations, but can also act as examples to others who may be resistant to change. Moreover, training at all levels of an organisation will provide staff with an understanding of the goals and objectives of quality. Therefore, it is necessary to train in order to educate individuals about the nature and principles of TQM, and to provide them with the skills and techniques they need for problem solving, with the aim of improving their career development prospects, and at the same time enhancing customer satisfaction.

#### **4.3.5 Employee involvement**

Most of the scholars and practitioners engaged in discussing TQM (such as Crosby, 1979; Ishikawa, 1985) agree that its success depends on people orientation, illustrated through

initiatives such as team work, training and development, employee involvement and participation (Wilkinson et al., 1998). According to Temtime and Solomon, (2002) employee involvement is the process of empowering organisational members to solve problems and to make decisions appropriate to their level. This is beneficial because they are closest to the problems or opportunities and so are in the best position to make decisions about solving problems and process improvement.

Employee involvement should begin with a personal commitment to quality. If employees accept and commit to a quality philosophy, they are more likely to adopt 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 (Evans and Lindsay, 2001):

- 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) also emphasised the need for horizontal integration and cooperation among departments that are treated as components of one system, through employees' involvement for ensuring effective TQM implementation. According to Baidoun, (2004) in order to ensure the commitment and involvement of everyone in an organisation in the quality improvement, top management must empower all employees in the preparation, implementation and evaluation of improvement activities. To achieve employee involvement, firms may use teamwork, suggestion systems, and empower their employees to act in quality matters and to communicate across the organisation. Employee involvement is an important tool of change in



the implementation of TQM; indeed, involvement is at the very heart of TQM principles (Wilkinson et al., 1998).

Besterfield et al. (2003) stated that the benefits of employees' involvement in TQM are improved service quality and increase productivity, because:

- Employees make more strategic decisions using the knowledge they have gained regarding the process;
- Employees are more likely to support the implementation of decisions they have had a role in making;
- Employees are better able to identify areas for improvement;
- Employees are better positioned to take corrective action sooner;
- It improves relations between labour and management by facilitating better communication and cooperation;
- It increases feelings of identification with the organisation;
- Employees are better able to accept management changes to control the work environment;
- Employees increase their commitment to the goals of their unit because they are more involved in setting them.

#### **4.3.6 Employee Empowerment**

Goetsch and Davis (2010) argued that empowerment and the involvement of employees are closely related concepts. There are important differences between involvement and empowerment. Involved employees are consulted for their input, but they are not given ownership of their jobs. Empowered employees are given ownership of the processes they are responsible for and the products or services generated by those processes. Stahl (1995, p. 12) defined employee empowerment as: “*empowerment is sharing with non-managerial employees*

*the power and authority to make and implement decisions*". In the same context, Hradesky (1995) pointed out that empowerment means that all employees feel they have the authority and responsibility to participate in problem solving and decision making pertaining to their appropriate operating levels. In addition, some researchers (Powell, 1995; Bayazit, 2003; Conca et al., 2004) have considered employee empowerment as a key issue in the creation of a working environment conducive to employees taking responsibility for themselves.

Deming (1986) emphasised that employee empowerment is a critical factor involving giving employees the authority to carry out their jobs. This is supported by Evans and Dean (2000) who pointed out that empowerment gives employees real authority over their work. Empowerment improves quality through allowing employees to use their resources to address quality problems; thus, this leads to improved productivity and services.

Further, according to Hradesky (1995), empowerment is a crucial part of cultural change that brings the decision-making process down to the level where problems are most visible. He also suggests the following methods of empowering employees:

- *Expectations*: Give clear goals and objectives and expect employees to achieve them.
- *Guidelines*: Provide guidelines, policies and procedures for employees to follow.
- *Authority*: Employees should be authorised to act within the boundaries of decisions.
- *Resource and skills*: Managers should provide employees with the tools, information and skills to realise expectations.

Besterfield et al. (2003) pointed out that employee empowerment requires that the individual be held responsible for accomplishing an entire task. He also mentioned that in order to create an empowered environment, three conditions are necessary:

1. Everyone must understand the need for change.

2. The system needs to change to meet the new paradigm.
3. The organisation must enable its employees.

Ahire et al. (1996) stated that empowerment does not mean merely shifting the responsibility for quality decisions to employees; it also entails providing a supporting framework, such as that for the necessary resources and technical support, to assist in such decision making.

#### **4.3.7 Rewards and Recognition**

The purpose of a reward and recognition system is to influence employees' performance by reinforcing desirable values and behaviour. Organisations which effectively implement TQM endeavour to establish a system which catches people in the act of doing the right thing from a values or behaviour perspective (Hradesky, 1995). The most important reason for an organisation to establish a rewards system is to encourage its staff to work harder and so function more successfully. Sallis (1993) believes that to do a good job, employees need recognition and encouragement of their achievements and successes. They need leaders who appreciate their achievements and lead them to even greater success. This system could be a combination of two types of rewards: tangible ones and intangible ones, such as staff receiving recognition for work well done.

Juran (1989) believes that a reward system is an important factor in encouraging organisational development. He argues for the benefits of the reward system: *“The reward system not only serves its basic purpose of rewarding employee performance; it also serves to inform all concerned of the upper manager priorities. If goals are revised but the reward system is not, the result as viewed by subordinates is conflicting signals. Most subordinates resolve this conflict by following the priorities indicated by the reward system (p.211)”*. Motwani (2001) indicated seven critical success factors for TQM implementation after examining six empirical studies. Among

the things that he recommended attention be given to were reward and recognition systems. Whalen and Rahim (1994) mentioned that a lack of proper reward and recognition systems was one of the barriers that affected quality management implementation. This was supported by Nagi and Cheng (1997) who found that lack of reward and recognitions systems were among the impediments to TQM implementation. Najmi and Kehoe (2000) affirmed that one of the barriers for successful quality development was the lack of appropriate performance measurement systems.

Ab Rahman and Tannock (2005) in their study of TQM best practices in Malaysian companies found that rewards and recognition systems are considered imperative to the success of TQM implementation. They state that a well-designed staff and team recognition system is effective in continuously reinforcing and encouraging desired behaviour, supporting morale, and motivating employee's involvement. Similarly, Wruck and Jensen (1998, p. 414) note the importance of a reward system is as follows: *“For TQM to create lasting improvements in efficiency, it is desirable to establish a system of rewards and punishment that complements the new allocation of decision rights and the new performance measurement system. We define rewards broadly to encompass all types of rewards; both monetary and non-monetary including the satisfaction generated by participation in TQM activities...all these rewards are valued by employees and so provide motivations or incentives”*.

Theoretically and practically, there are agreements as to the importance of both monetary and non-monetary rewards. In an organisation it is possible to use a combination of both types of rewards to provide motivation for staff. When staff know that they will be rewarded for their extra efforts in quality improvement, there will be a sense of teamwork and continuous improvement that allows TQM to be implemented more effectively.

#### **4.3.8 Communication and information systems**

Goetsch and Davis (2010) defined communication as the transfer of a message (information, idea, emotion, intent and feeling or something else) that is both received and understood. He added that communication is the oil which keeps the total quality engine moving, and observes that it plays a facilitative role in a total quality setting. According to Evans and Dean (2000), communication and information systems are key processes for any team attempting to improve its quality. Tsang and Antony (2001) observe that communication and information systems are crucial factors in the implementation of TQM. At all levels employees have to perform quality improvement responsibilities within an organisation and they therefore, need to be made aware of any appropriate feedback in order to ascertain whether decisions they have made previously have had any effect on improvements to overall quality. Employees need to be provided with the authority to take control of their activities and also the ability to implement continuous improvement. Management guidance is vital in ensuring that organisational aims are met. Moreover, Sila and Ebrahimpour (2002) found that communication and information systems play an important role in successful TQM implementation in the literature. In addition, according to Ghobadian and Gallear (1997), the establishment of effective communications and information systems are a very important factor for TQM implementation. Bharati and Berg (2003) pointed out that communication and information system are important elements that can contribute to successful TQM implementation and influence service quality.

Goetsch and Davis (2010) mentioned that some of the key elements of the TQM concept are customer focus (internal and external), top management, total employee involvement and empowerment, team work, problem prevention and solving, and continuous improvement. Each of these elements is dependent on effective communication and information systems.

Tobin (1990) reported on the role of information systems in TQM implementation, and stated that in order to satisfy the multiple anticipations of the customer a host of new, challenging, information systems will be required to capture the data required by managers. He emphasised that a new system will be needed to gather and report quality data and to help employees in the performance of their work, with an even greater emphasis on networking across functional lines to eliminate islands of information that is not effectively communicated throughout the organisation. Communication and information systems are very important in TQM because of the increased need for information that is accessible to teams throughout the organisation. Therefore, organisations should aim to develop communication and information systems best suited for their organisations, in order to implement quality improvement strategies.

#### **4.3.9 Benchmarking**

Benchmarking is a vital component of efforts to achieve best practice in management and represents a significant element of the TQM process. Benchmarking can be considered as a method of assessing industrial competitiveness, and the practice of benchmarking has been viewed in the literature as one of the ways in which organisations can promote continuous improvement in their performance (Jain et al., 2008). According to Oakland (1995), benchmarking is the continuous process of measuring products, services and processes against one's toughest competitors or those organisations recognised as industry leaders. He adds that this results in a search for best practice, which will lead to superior performance and competitive advantage, through measuring performance, continuously implementing change, and emulating best practice. Liston (1999, p.98) agrees with Oakland, and highlights a key objective behind benchmarking; customer satisfaction. He defines benchmarking as:

*“A tool used to improve products, services or management processes by analysing the best practices of other companies or institutions to determine standards for performance, and how to achieve them to increase customer satisfaction”.*

According to Zairi, (1996, p. 19) the formal definition of benchmarking used by Rank Xerox is:  
*“A continuous, systematic process of evaluating organisations recognised as industry leaders, to determine business and work process that represent best practices, establish rational performance goals”.*

Benchmarking involves the search for instances of best practice which lead to improvements in performance, thereby helping an organisation to appreciate where it is strong and where it is weak in comparison to its competitors. This then allows it to incorporate best practice, as observed from research, into its own operations (Evens and Dean, 2000). Authors such as Zairi, (1994); Sallis (1993) have identified four types of benchmarking, these are:

**1. Internal benchmarking:** internal benchmarking is a comparison between the units within an organisation. Any element of an organisation achieving superior performance in any common practice may be used as a model for all others doing likewise.

**2. Competitive benchmarking.** This type of benchmarking is used against direct competitors. Its goal is to compare organisations offering competing products, services or processes in the same market.

**3. Functional benchmarking** this involves comparisons with similar functions or processes within the same broad industry.

**4. Generic benchmarking:** comparison with similar functions or processes regardless of type of industry. An organisation’s business practices are purposefully compared with other

organisations having demonstrably superior performance, engaged in broadly similar practices or with similar structures.

#### **4.3.10 Continuous improvement**

Stahl (1995) mentioned that continuous improvement refers to the constant improvement of products, services, and organisational systems, as required to yield improved value to customers. The term continuous improvement is derived from the Japanese term 'kaizen'. Oakland (1995) defines kaizen as a philosophy of continuously, involving the improvement of all employees in an organisation, with the aim of continuous incremental improvements in the performance of their tasks on a daily basis. It is a process that is not conceived to have an end-point, but rather to involve a continual, process of gradual improvement and change. Deming (1986), in his 14 points of management, advises that the success of an organisation depends on constantly improving its system of production and service, to improve quality and productivity; and thus constantly decrease costs. It is the task of management to ensure that there is a continual process of improvement throughout the organisation.

Sallis (1993) pointed out that TQM seeks a permanent shift in an organisation's focus away from short-term expediency to long-term quality improvement. Constant innovation, improvement and change are stressed, and those organisations that practise it lock into a cycle of continuous improvement. According to Tsang and Antony, (2001) the continuous improvement in the quality of a product and service is essential to TQM. These improvements can be used to achieve a wide range of objectives, and also aim to eliminate the production of sub-standard products, the reduction of waste, and excessive variability in quality; so helping to dramatically reduce production/operation lead times. Dale and Bunney (1999) also point out that continuous improvement in quality can only be achieved by directing an organisation's efforts towards



planning and preventing problems occurring at source. According to Oakland (1995), there are three fundamental principles for continuous improvement, which are: an unrelenting focus on the customer; a thorough understanding of the organisation's own processes; and a commitment to ensuring that every employee is dedicated to quality.

Successful TQM implementation requires a thorough understanding of critical success factors, the barriers to achieving these factors, and managerial tools and techniques to overcome these barriers (Mellahi and Eyuboglu, 2001; Moghaddam and Moballeghi, 2008). In addition, successful implementation of TQM depends to a large extent on organisational culture, which requires a significant change in the values, attitudes and culture of an organization (Deal and Kennedy, 1999; Oakland, 2003; Rad, 2006). The implementation of TQM requires an understanding of organisational culture and a change in its underlying values so that quality becomes a state of mind for organisational members (Yong and Pheng, 2008).

Hellsten and Klefsjo (2000) state that certain core values of TQM should diffuse into the organisation. Therefore, in order to implement TQM successfully in an organisation it is necessary to align the values of the company with the values of TQM. It is not an easy task to change the values of an organisation, because values are intensely rooted in the culture of the organisation. According to Atkinson, Deming, Drummond and Schildknecht TQM implementation requires a radical change in the culture of the organisation. Hence, it is essential to understand the relationship between organisational culture and the implementation of TQM practices (cited in Lagrosen, 2003, p. 473). It has been widely acknowledged that TQM implementation requires a culture change in the organisation. The organisation needs to develop a suitable TQM implementation and performance improvement strategy, by adopting a change

model which is culturally feasible (Kekale and Kekale, 1995: Oakland, 2003; Dale, 2003). Therefore, because one of the objectives of this study is to explore the influence of organisational culture on TQM implementation, in the next section organisational culture and its relationship with TQM will be discussed.

#### **4.4 Definition of Culture**

It is difficult to find one widely agreed definition of culture. Many definitions of culture can be found in the literature, Kroeber and Kluckhohn found more than 160 different meanings of culture in their research, which reflects a wide range of interpretations of what comprises culture (Baldwin et al., 2006). Kroeber and Kluckhohn (1952) defined culture as:

*“Culture consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e. historical derived and selected) ideas and especially their attached values”* (cited in Baldwin et al., 2006, p. 8).

Hofstede and Hofstede (2005, p. 4) defined culture as: *“The collective programming of the mind that distinguishes the members of one group or category of people from others”*. Miroshnik, (2002, p. 526) stated that culture is the *“complex interactions of the values, attitudes and behaviours”* of the members of a society. *“Individuals express culture and its normative qualities through values that they hold about life and the world around them. These values, in turn, affect their attitudes about the form of behaviour considered most appropriate and effective in any given situation. Continually changing patterns of individual and group behaviours eventually influence the society’s culture, and the cycle begins again”*.

Kempner defines culture as *“the sum total of beliefs, knowledge, attitudes of mind and customs to which people are exposed during their social conditioning”* (cited in Ngowi, 2000, p. 444). It is a

“fact that when people grow up in different environments, their cultures will be different” (Ngowi, 2000, p. 444).

According to Schein (2004) culture can emerge in any group where members have a mutual experience of a chronicle of events. Shared assumptions are the fundamental elements causing a group to form. They formed when the group lived together through a chronicle of events; these shared assumptions determine the shared social values of the group.

According to Hofstede and Hofstede (2005), almost everyone belongs to more than one group simultaneously; therefore, people carry several layers of mental programming within themselves that correspond to different levels of culture (Hofstede and Hofstede, 2005, p. 11):

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

Kujala and Lillrank, (2004) stated that organisations needed to first work at developing a suitable implementation approach, which would be acceptable to their culture. The central role played by culture in the success or failure of TQM implementation means that it is vital to develop culturally acceptable TQM programmes. In addition, Kano (1993) mentioned that culture should be taken into account when implementing TQM. However, he emphasised that culture is not a barrier to the implementation of TQM; adding that there are many similarities between the

development of quality activities in American TQM and Japanese TQC. Although some differences exist, they are not critical. Therefore, he stressed that experiences and knowledge in both countries is to some extent interchangeable. Flynn and Saladin (2006) concluded that there was a strong evidence of a culture affecting the implementation of TQM and performance excellence. In addition, they indicated that there is not a universal model for performance excellence and quality management approaches which should be adapted to the local culture, in order to achieve the highest probability of success.

Temtime and Solomon (2002) indicated that it is necessary to change attitudes, values, systems and beliefs if organisational culture is to be transformed in the way required by TQM. They also suggest that culture can be regarded as the adhesive, in that it attracts the activities and efforts of employees in the workplace into a cohesive whole. In order to change the behaviour and attitudes of organisational members, TQM needs to be treated in part as an educational process aimed at developing a quality sensitive organisational culture. As Najmi and Kehoe (2000) point out, an organisation's members may refuse to accept new changes, however, this problem can be resolved by fostering a quality culture within the organisation.

#### **4.5 Organisational Culture**

One of the unique characteristics that differentiates successful firms from others is their organisational culture (Keller and Richey, 2006). Organisational culture is important factor to ensure success in the business environment, and an essential task for leaders, because it has an influence on productivity, adopting new systems, and future changes to the organisation (Bosh et al, 1999). According to Lewis (1996, p. 12), the writings of Ouchi also caused American and European managers to think that Japan's tremendous economic success and rapid economic

growth were essentially due to its typically strong corporate cultures, which was another propellant of the great interest in organisational culture.

According to Cameron and Quinn (2006), most organisational scholars recognise that organisational culture has a powerful effect on the performance and long-term effectiveness of organisations. With the rapid transformation of economies, the impact of globalisation, and increasing multinational business cooperation, organisational culture is more important today than ever before; it has a crucial effect upon an organisation's performance and ability to adopt advancements such as technological change, change in industries and market, deregulation, shifts in the global economy, increased organisational complexity, and newer business models (Keller and Richey, 2006).

#### **4.5.1 Definition of organisational culture**

All organisations share certain attitudes, symbolism, and beliefs, and these are often so ingrained they are taken for granted (Schein, 2004). Definitions of culture vary, and academics and researchers who study culture have therefore developed a wide range of differing definitions according to their particular discipline and area of interest. Although there are many definitions of organisational culture, nearly all definitions consist of a combination of values, beliefs, and important assumptions that organisational members consider to be proper, adequate, and acceptable behaviour (Hofstede and Hofstede, 2005).

Although there is no universally accepted definition of organisational culture (Behery and Paton, 2008), the concept of organisational culture has become one of the most important topics in organisational science. Cameron and Quinn (2006, p.16) define organisational culture as: "The taken for granted values, underlying assumptions, expectations, collective memories, and definitions present in an organisation". Inside an organisation, sub-units such as functional

departments, product groups, hierarchical levels, or even teams may reflect their own unique cultures.

Jeffries et al. (1996, p.78) defined organisational culture as: “*all the interactions, which take place between people, their relationships, and the feeling engendered by their behaviour*”.

Oakland (2003) defined the culture of an organisation as the beliefs and attitudes that pass through the organisation as to how business should be conducted, and how employees should be treated and therefore should behave.

The concept of culture has been defined by Schein (2004, p. 17) as: “*A pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has 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 problem*”. Schein (2004) distinguished three levels of culture:

1. “*Artifacts*”, includes visible organisational structures and processes;
2. “*Espoused values*”, this includes strategies, objectives and philosophies;
3. “*Basic underlying assumption*”, this includes unconscious, assumed beliefs.

Schermerhorn (2005) defines organisational culture as “the system of shared action, values, and beliefs that develops within an organisation and guides the behaviour of its members”. Hofstede and Hofstede (2005, p. 180) define organisational culture as, “*the collective programming of the mind which distinguishes the members of one organisation from another*”. Denison (1990) defines organisational culture as a pool of shared meanings inside an organisation that affect how its employees behave. According to Lok and Crawford (2004), organisational culture influences how employees set targets, execute duties, manage resources, and also the way people think, make decisions, perceive, feel and act. However, according to Lamond (2003, p. 47), this has

sometimes been represented through different terms: “*cultural values; management climate; management processes; management style; and vision*”.

#### **4.5.2 Measurement of organisational culture**

Many researchers (Schein, 2004; Cameron and Quinn, 2006; Denison and Spreitzer 1991; Quinn and Spreitzer 1991; O’Reilly, et al., 1991; Denison 2000) have studied organisational culture according to interest and discipline. Hence, all have developed differing measures and dimensions to describe organisational culture. Because of the wide-range of approaches to the study and different measurements of organisational culture, for the second objective, the researcher has sought a valid and reliable instrument that can be adapted to measure the influence of organisational culture on the implementation of TQM by Libyan banks. The Organisational Culture Assessment Instrument (OCAI) was originally developed by Quinn and Rohrbaugh (1981), and is based on a theoretical model, the ‘Competing Values Framework’ (CVF). This Competing Values Framework was also developed by Denison and Spreitzer (1991), who considered it to be the most suitable for the purpose of this research. This framework refers to whether an organisation has an internal or external focus and whether it favours flexibility and individuality or stability and control. The framework is also based on four types of dominant organisational culture types: group culture, developmental culture, hierarchal culture, and rational culture.

#### **4.5.3 The competing value framework (CVF)**

In order to explore the influence of organisational culture on TQM implementation (the second objective of this study), a competing value framework (CVF) was proposed and tested by Denison and Spreitzer (1991). This was selected to identify types of organisational culture. The first reason for choosing a competing values framework is that it helps to identify a more

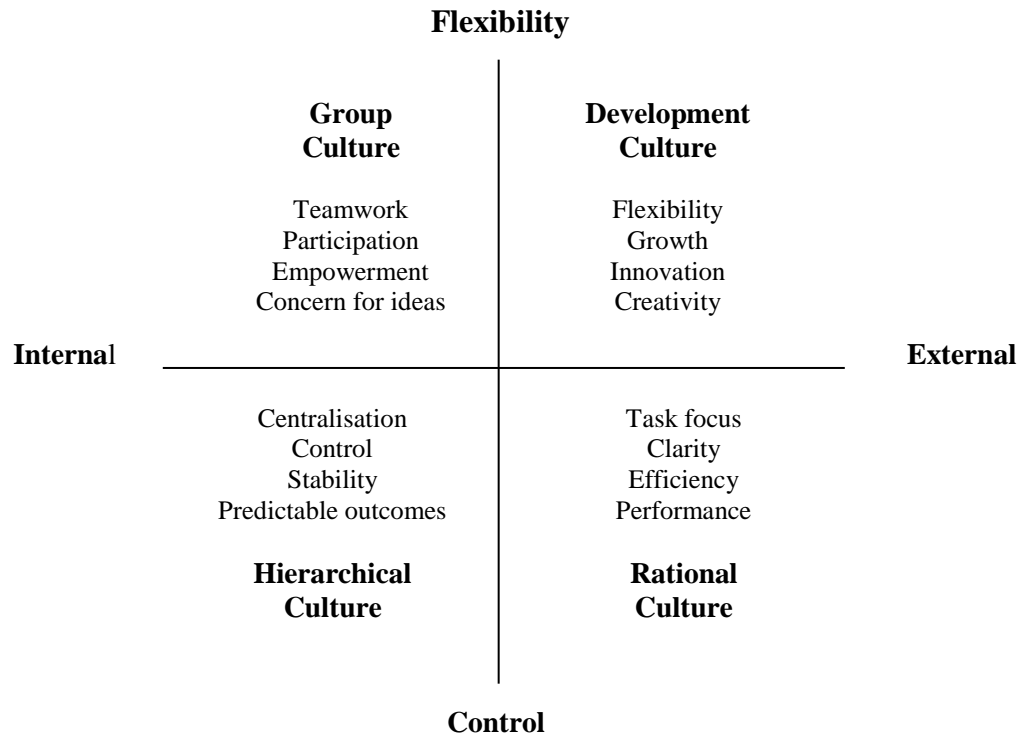
comprehensive approach to TQM because it highlights the key elements of the four main cultures which underlie organisational performance (Cameron and Quinn, 2006). The second reason, it is also one of the most significant and extensively used models for constructing the profile of an organisation's culture (Cameron and Quinn, 2006; Vilkinas and Cartan, 2006).

The CVF framework contains two dimensions, which are represented by two axes, each with a super-ordinate continuum, as displayed in Figure 4.1 below. The first dimension represents the flexibility-control axis and describes the two contrasting orientations, between that which reflects flexibility (i.e. spontaneity and development) and that which reflects control (i.e. stability and continuity). The second dimension is the internal-external axis, which also represents two orientations; with one being oriented towards maintenance and improvement within the existing organisation, and the other being focused on adaptation and interaction within the external environment. Therefore, these categories reflect several models for organisational theory which provide a third reason for choosing this model (Prajogo and McDermott, 2005; Stock et al., 2007).

In addition, According to Prajogo and McDermott (2011) the Competing Value Framework for organisational culture reflects contrasting values in four organisational cultures, unlike others models (such as the organisational culture profile developed by O'Reilly (1991); this is another reason for choosing this model. Moreover, the central point of CVF is that organisational effectiveness depends on the organisation's ability to satisfy multiple performance criteria based on four value sets that comprise of a combination of two dimensions: flexibility - control and internal -external.



**Figure 4.1: The Competing Values Framework of Organisational Culture**



Source: adapted from Denison and Spreitzer, (1991)

**Group culture** places emphasis on flexibility and internal organisation. Group culture promotes participation, trust, and the development of human resources; emphasising openness, cohesiveness and commitment to membership (Denison and Spreitzer, 1991). This culture is characterised by teamwork, consensus and participation (Cameron and Quinn, 2006).

**Developmental culture** also places emphasis on flexibility, but adopts a sharper focus directed towards the external environment. In this culture, organisational orientation is more directed towards growth, stimulation, acquisition of resources, innovation, and ongoing adaptation to the external environment. Organisations with a developmental culture constantly seek new markets and innovative activities to satisfy and surprise customers, whilst also anticipating their needs.

Organisations with this culture implement creative solutions to problems produced by evolving customer preferences.

**Rational culture** is also based on a concern with the external environment, but is more control-oriented. It is motivated by competitive urges, and places emphasis on productivity, performance, and achieving goals. Organisations characterised by this culture type are rational in their decision making and usually have a set of well-defined goals and strategies. These organisations place great importance on efficient planning and tight control of production, aiming to achieve high productivity and gain competitive advantage (Denison and Spreitzer, 1991).

**Hierarchical culture** is both control based and internally oriented. It emphasises rules and regulations, and standardisation to achieve control and stability. Organisations regard it as important to form environments that value a hierarchical culture, so as to support the use of effective tools in process control and improvement (Cameron and Quinn, 2006).

Denison and Spreitzer (1991) stress that the four types of organisational culture should be viewed as ideal types informing the culture of the organisation. This means that organisations should blend these four types of culture together; in other words, creating a culture-balance, accounting for the presence of the four types within the organisation. This should be informed by recognition that some types may be more dominant than others, thus this differs from a process reflecting only one aspect of culture (Quinn and Spreitzer, 1991; Cameron and Quinn, 1999, 2006; McDermott and Stock, 1999). As a result, organisations which have a high rating in one dimension (e.g. internal orientation) are not excluded from having a similarly high rating in another (e.g. external orientation). It is also assumed in the CVF model that effective

organisations will display some form of combination of various orientations. An organisation's ability to respond to the demands of different environmental conditions is likely to be hampered by an overemphasis on one dimension or quadrant at the expense of another.

The CVF combines two axes to reflect the four culture types, which shows the in depth structures of the organisational culture types, each one of them representing different values related to compliance, motives, leadership, decision making, effectiveness, strategic orientation, and organisational forms within an organisation. Therefore, organisations need to accommodate divergent goals by developing a system and/or structure that allows enough flexibility for adapting to different (even contrasting) management styles. Hence, Thompson (1998) confirms that an organisations need for creating its own unique organisational culture could be one of the primary issues associated with TQM.

Cameron and Quinn (2006) stress that the competing value framework can accurately describe other aspects of organisations as well, and it has applicability to various aspects of the organisation. They found through, their studies that corresponds between the dominant culture of the organisation and its leadership style, management roles, human resource management, quality management, and effectiveness criteria contribute to higher levels of performance than inconsistency; thus this model (CVF) was chosen because many of its elements corresponded with success factors of TQM implementation.

A number of empirical studies have adopted the CVF to explore the effect of organisational culture on various operations and management practices, such as advanced manufacturing technology, leadership roles, TQM, organisational effectiveness, Knowledge management, and

HRM roles (McDermott and Stock, 1999; Zammuto and O'Connor, 1992), performance measurement (Henri, 2006), organisational effectiveness (Gregory et al., 2009), Knowledge management (Rai, 2011), and in particular TQM (Al-khalifa and Aspinwall, 2001; Chang and Wiebe, 1996; Dellana and Hauser, 1999; Jabnoun and Sedrani, 2005; Prajogo and McDermott, 2005; Stock et al., 2007; Yong and Pheng 2008; Zu et al., 2010). These varied applications of CVF suggest that it is a universal framework that explains a range of organisational phenomena. It would seem that there is basic support for CVF being a two-dimensional model with four quadrants, whether it is applied to management or to organisational culture (Vilkinas and Cartan, 2006). For instance, in the study conducted by Al-khalifa and Aspinwall (2000) CVF was used to design a questionnaire which was distributed to quality experts in the UK, in order to acquire opinions on the cultural characteristics that they believed would ideally support the implementation of a TQM philosophy in an organisation new to TQM. According to the findings, the ideal organisational culture in the context of TQM was considered to be a combination of a group and a developmental culture. Such an organisation would be characterised by internal flexibility and would be customer oriented, placing emphasis on staff participation, innovation, a drive to improve human resources and prone to decentralising its decision making processes.

Al-khalifa and Aspinwall (2001) conducted a study into TQM in Qatar, employing CVF to investigate how suitable Qatar's national culture was in light of the effective implementation of TQM. Their findings lead to the conclusion that companies in Qatar would find it difficult to implement TQM because they have been traditionally dominated by a corporate culture of rationality and inflexible hierarchies. Furthermore, they suggested that dynamism was necessary to change a business radically, and an organisation seeking to implement TQM must create an environment in which it is safe to take risks. People must feel that they are participants and that

their level of morale, trust and participation are high. Building teamwork, opportunities for growth and development, and decentralised decisions are important steps towards creating the necessary culture. Chang and Wiebe (1996) also conducted interviews with a group of TQM experts to identify the suitable cultural characteristics for supporting the implementation of TQM. They found that TQM practices were associated with different organisational culture types relating to CVF, but would be best implemented in organisations where developmental and group culture types were dominant, as they were the most supportive of the implementation of TQM practices.

Dellana and Hauser (1999) also used CVF, and found that group and developmental culture types had strong and positive influences on TQM practices. Contrastingly, hierarchal and rational culture types had strong negative influences on the level of implementation of TQM practices. Jabnoun and Sedrani (2005) found that TQM practices correlate with all organisational culture types, but they have their strongest correlation coefficient in group and developmental culture types. Moreover, another study, using CVF, conducted by Prajogo and McDermott (2005) found that group culture was the most dominant among the four cultural dimensions. It shared a significant relationship with all TQM factors. The findings in this study also revealed that both developmental and rational cultures had a positive relationship with certain TQM factors, such as; leadership and people management, customer focus, and process management. In addition, the study revealed that hierarchical culture had a significant relationship, although less strongly, with certain other TQM factors such as process management, information and analysis, and strategic planning.

According to McDermott and Stock, (1999) organisations with a hierarchical culture have an internal focus and emphasise control and stability. Such a culture is characterised by uniformity, internal efficiency and a strong regard for organisational rules and regulations. The negative impact of a hierarchical culture on organisational effectiveness has been noted in several studies. For instance, Cameron and Freeman (1991) concluded that hierarchical cultures were counter-productive to organisational effectiveness in US higher education institutions. Quinn and Spreitzer (1991) also found that an overemphasis on hierarchical culture was damaging to organisational effectiveness, and that organisations of this type tended to be the worst performers, while their employees reported a low quality of work life.

#### **4.5.4 Organisational culture and TQM**

Organisational culture is an essential factor in adopting any successful change in an organisation. The success of TQM implementation will depend, to a large extent, on organisational culture, thus it is essential to the implementation of TQM to take it into consideration (Noronha, 2003; Cameron and Quinn 2006). Cameron and Quinn (2006) have argued that organisational culture is important because plans for any changes adopted not including organisational culture would have unforeseen and largely negative consequences.

In other words, knowledge of an existing organisational culture is the basis for cultural change. Implementing cultural change within an organisation is recognised as one of the primary conditions for the TQM to flourish (Oakland and Porter 1994; Van Donk and Sanders 1993). Several studies have highlighted the fact that appropriate organisational culture drives TQM success (Kujala and Lillrank, 2004; Katz et al., 1998; Tata and Prasad, 1998; Powell, 1995; Prajogo and McDormant, 2005; Zu et al., 2010). Crosby (1979) acknowledged that cultural change is essential component in any quality improvement strategy. Powell (1995) promotes the

importance of cultural aspects of TQM and also mentioned the absolute necessity of TQM practices being implemented in a favourable environment (i.e. culture) to encourage open communication. Indeed, he stated that this was imperative for TQM's success.

According to Lagrosen (2003) the successful implementation of TQM requires changes to organisational values and attitudes, so as to become consistent with TQM values. In the same vein, Kujala and Lillrank (2004) mentioned that TQM programs are more likely to succeed if the prevailing organisational culture is compatible with the values and basic assumptions proposed by the TQM discipline. The success of TQM as an agent of organisational change depends largely on an organisation's culture. The successful implementation of TQM requires significant changes to values, attitudes and the culture of an organisation. Many organisations go to great lengths to shape their cultures as a means of improving organisational effectiveness (Deal and Kennedy, 1999).

Conversely, many TQM implementations have failed due to ignorance of cultural factors (Dale and Cooper, 1992; Oakland, 1995; Van Donk and Sanders, 1993; Wilkinson et al., 1998). According to Cameron and Quinn (2006), in most failed TQM attempts the elements of the four quadrants of organisational culture are not implemented; there is only a partial deployment of organisational culture. They argued that the Competing Values Framework helps to identify a more comprehensive approach to quality because it highlights the key elements of the four main cultures that underlie organisational performance. Furthermore, Kekäle and Kekäle (1995) argued that the mismatch of organisational culture with TQM implementation principles is behind the failure of implementing TQM.

Sinclair and Collins (1994) have highlighted issues that need to be considered for a cultural environment that is suitable to support TQM initiatives. These are:

1. The rationale for change;
2. A clear vision of the type of culture required;
3. How this vision integrates with an organisation's strategy;
4. A clear picture of the cultural characteristics which the organisation is comprised of;
5. Quality should not be viewed in isolation: it has an influence over the whole organisation;
6. People have to be made aware of the personal benefit of offering a quality service;
7. The process of management must be examined if organisations are to achieve worker empowerment;
8. Reward issues must be addressed: both monetary and non-monetary; and
9. Quality techniques must not be viewed as ends in themselves.

Tata and Prasad (1998), in their review of literature, examined the influence of organisational culture on TQM implementation, and suggested that flexibility-oriented cultures are likely to be more conducive to the success of TQM implementation, compared to control-oriented cultures.

Rad (2006, p.619) found that organisational culture had a significant effect on a successful TQM implementation in Iran, writing that:

*“Organisational culture has a significant effect on successful TQM implementation. For TQM programmes to succeed, a collaborative and corporate organisational culture supported by the long-term management and employees commitment and involvement, organisational learning, innovation and entrepreneurship, team working and collaboration, open communication, risk taking, continuous improvement, customer focus (internal and external), partnership with suppliers, and monitoring and evaluation of quality should be developed”.*

Therefore, it seems likely that the best TQM results can be achieved only when an open and cooperative culture is created and supported by top management and employees, based on teamwork and customer focus. To achieve success in TQM, top managers quite possibly need to



ensure that the approach is applied to all facets of the organisation; the training, promotion systems, procedures, management style, organisational structure, communications, and processes must reflect TQM values and principles. Moreover, training is considered a vital tool in the promotion and development of skills related to an organisation's traditions and values, and so is central to efforts to adapt the culture so that a high premium is placed on quality. The prevailing organisational culture should be compatible with the values and principles of TQM philosophy, or, alternatively there should be sufficient behavioural modification for employees if significant progress in quality improvement is to be made. Employees also need to be encouraged and empowered to contribute fully to the organisation's continuous improvement programs. Therefore, it is important to understand and define a proper organisational culture type, to map and study the organisation's readiness for the adoption and implementation of TQM.

It is evident then; organisational culture is a key factor in the adoption of the implementation of TQM. Therefore, it is essential that the implementation of quality management requires changes to value systems and organisational culture of organisation. It could be argued that TQM can be successfully implemented when a corresponding organisational culture is taken into consideration. According to Deal and Kennedy (1999), successful implementation of TQM requires a measure of change in the values, attitudes, and culture of an organisation. Therefore, many organisations endeavour to shape their cultures as a means of improvement, aligning that culture with new trends in the application of new philosophies.

Accordingly, organisational culture should be considered when identifying the factors affecting successful TQM implementation. This means it can be asserted that TQM implementation efforts are significantly related to organisational culture. Hence, organisational culture is one of the most important factors that contribute to the success or failure of the implementation of TQM. Many

studies have indicated that several organisations have failed in TQM implementation due to their ignorance of organisational culture factors (Kekäle and Kekäle, 1995; Tata and Prasad, 1998; Al-Khalifa and Aspinwall 2000; Prajogo and McDermott, 2005; Yong and Pheng 2008; Zu et al., 2010). In addition, Tata and Prasad (1998) have stated that the lack of significant success in implementation is often not viewed as a failure of the TQM philosophy, but more as a result of not paying sufficient attention to the cultural factors that affect it. In addition, there have been many studies that have shown several obstacles and barriers facing TQM implementation in developed and developing countries. Therefore, it is evident that TQM programmes are more likely to succeed if existing organisational cultural characteristics are in tune with the values and assumptions inherent in TQM implementation plans. Therefore, to achieve the third objective of this study: to identify the main obstacles, if any, which affect TQM implementation in the Libyan banks, the obstacles and to TQM implementation in the literature will be discussed in the next section.

#### **4.6 Obstacles and barriers to TQM implementation**

Despite the great benefits to be gained from the implementation of TQM, several organisations that have faced difficulties in the implementation of TQM and did not achieve the expected outcomes (Ngai and Cheng, 1997; Salegna and Fazel, 2000). Therefore, Yeung, and Armstrong (2003, p.14) pointed out that: *“Many companies adopting TQM find that the expected benefits are not delivered. Their management do not recognise that there are still barriers to overcome before obtaining the TQM benefits. One of the barriers is an inadequate focus on the latest market environment and on actual customer responses - TQM efforts are devoted to improving performance indicators of internal processes instead of external customer satisfaction. Links and contact between managers and customers are important if companies are to overcome the barriers and obtain the benefits of TQM”*. Others have narrowed their view to concentrate on

specific barriers to TQM, such as management style (Mann and Kehoe, 1995), employee factors (Fok et al., 2000), and organisational culture (Kuei et al, 2001).

Many studies have investigated the barriers and obstacles that lead to the failure of TQM implementation in organisations. This failure may not be due to weaknesses in the TQM concepts itself, but may rather be due to a failure in paying sufficient attention to the cultural and structural variables particular to an organisation, that could influence the implementation of TQM. The success of TQM can therefore depend on the extent to which certain cultural and structural factors exist in the organisation, or even in the state (Tata and Prasad, 1998). In the same vein, Prajogo and Sohal (2004) motioned that the most commonly quoted reasons for quality programme failures was unsuitable organisational culture. Furthermore, Matta et al. (1996), in a study of Malcolm Baldrige National Quality Award (MBNQA) winners, found that difficulties in implementing TQM were rooted in three causes: the holistic change of corporate culture; achieving and maintaining employees' acceptance of TQM; and integration with suppliers and customers. According to Master (1996), inability to change organisational culture was identified as an impediment to TQM implementation. Moreover, Kekale and Kekale (1995) indicate that the success of the TQM practices is inseparable from consideration of cultural barriers.

In addition, top management commitment is considered to be one of the essential components in TQM success. There are many studies that have shown that the lack of top management commitment and support for TQM initiatives is one of the most important factors that lead to the failure of the implementation of TQM in an Organisation. For example, Hradesky (1995) considers that the failure of many TQM programmes is due to a lack of top management commitment in the organisation. Amar and Zain (2002) identify the lack of top management as one of the barriers to implementing TQM in Indonesian manufacturing companies. Furthermore,

a lack of top management commitment was identified by Nagi and Cheng (1997), Macdonal (1998), Najmi and Kehoe (2000), Bhanugopan (2002) and Prajogo and Sohal (2004) as one of the key reasons for TQM failure. According to Dale and Cooper (1994), the common mistakes in TQM implementation that were mentioned by senior management included a lack of sufficient time to learn about TQM, a lack of persons involved in planning for its introduction and development, the failure to establish an effective infrastructure, a lack of sufficient resources for training and education, and underestimating the resources needed to set-up and develop a process of quality improvement.

Furthermore, Withers and Ebrahimpour (2001) stressed that top management commitment was cited as one of the obstacles to quality management implementation by eight of the eleven European firms they interviewed. Kanji et al. (1999) also indicated that some of the barriers to TQM in UK higher education institutions were: lack of commitment, insufficient knowledge, and fear of failure.

Masters (1996) also revealed certain factors that led to ineffective TQM implementation, these were:

- Lack of top management commitment.
- Inability to change organisational culture.
- Lack of accuracy in quality planning.
- Lack of continuous training and education.
- Incompatible organisational structure and isolated individuals/departments.
- Ineffective measurement techniques and lack of access to data and results.
- Paying inadequate attention to internal and external customers.
- Inadequate use of empowerment and teamwork.

Tamimi and Sebastianelli (1998) in their study also identified the top ten barriers to TQM, which were:

- Management's compensation is not linked to achievement.
- Employees are not trained in group discussion and communication techniques.
- Employees are not trained in quality improvement skills.
- Employees are not trained in problem identification and problem-solving techniques.
- There are inadequate resources to effectively employ total quality management.
- The best practices and/or products of other companies are not benchmarked.
- Employees and/or teams are not recognised for achievements in quality improvement.
- Employees are not empowered to implement quality improvement efforts.
- Quality is treated as a separate initiative.
- Employees are resistant to change.

Moreno-Luzon (1993) also discussed the difficulties that faced some organisations when developing quality management. Some of the difficulties were:

- Resistance to change;
- Lack of experience in quality management;
- Lack of resources;
- An emphasis on short-term objectives; and
- The lack of strategies and overall objectives.

Ngai and Cheng (1997) identified four factors as the barriers to implementing of TQM in Hong Kong's services and industrial companies:

- Cultural and employee barrier;
- Infrastructure barrier;
- Managerial barrier; and
- Organisational barrier.

Jun et al. (2004) classified the main barriers from some studies that have attempted to identify the major reasons for the failure of TQM implementation. These reasons were:

- The lack of top management commitment,
- Lack of customer focus,
- Erroneous measures or no measures to track progress of quality performance,
- Unrealistic expectations about the time frame and cost of TQM implementation, and
- The inability to develop and sustain a quality oriented culture.

Kayis and Shin (2003) made a comparative analysis of cultural, conceptual, and practical constraints on quality management implementation in Australia and South Korea. They highlighted some obstacles to TQM implementation derived from a descriptive analysis of the Australian banking industry; these included lack of top management support, lack of an innovative culture, poor communication between departments, lack of employee trust in management, and lack of understanding of customers' needs. Furthermore, they found some of the obstacles to TQM implementation in the South Korean banking industry to be: suggestions of low employee quality, failure to provide challenges at work, poor communication, and little use of relevant data to set performance standards.

The literature identifies gaps between developed and developing countries. There is a lot of evidence to show that the implementation of TQM and its programmes in developing countries have failed to effect real improvements. According to Mohanty and Lakhe (2000), many organisations face considerable difficulties in developing countries, and thus, their ability to adopt TQM was limited. These difficulties are composed of lack of employee involvement and participation in quality improvement efforts, lack of top management commitment and motivation, perception that quality is the optional extra and not a necessity for development, poor internal communication, lack of focus on the needs of consumers, lack of political support, lack of established quality standards and inadequate test facilities, lack of advanced or modern technologies, insufficient education and training resources, resistance to change at different

levels, and inadequate knowledge and information about TQM. Furthermore, Temtime and Solomon (2002) revealed that there are some obstacles to TQM implementation in Ethiopia, such as a lack of resources, planning, and business vision, a lack of managerial expertise and a misperception of TQM principles, a lack of employee motivation, a resistance to change, poor documentation and formalisation, a centralisation of authority, and a lack of TQM implementation frameworks.

In addition, Abdolshah and Abdolshah (2011) studied the barriers impeding the successful implementation of TQM in Iranian organisations. They found the most prominent to be the lack of management commitment, resource problems, and a failure to use the right framework for TQM. Moreover, Bhat and Rajashekhar (2009) in their study conducted in India, found that the most important TQM barriers were the employees' resistance to change, no benchmarking of other companies' practices, lack of customer orientation, lack of planning for quality, lack of total involvement, lack of management commitment, and lack of resources.

In the same vein, Talib et al. (2011b) studied TQM barriers affecting Indian service organisations. They found that a lack of top management commitment, lack of continuous improvement culture, employees' resistance to change, lack of coordination between departments, as well as high turnover at management level. In addition, Rad (2005) mentioned certain barriers that prevented successful TQM implementation in Iran. Human resources barriers included lack of effective and efficient employees for implementation of TQM, and a lack of reward and recognition for developing employees' participation in TQM activities. There were also strategic problems, which included a lack of planning and long-term policies, non-clarity of

organisational policy and objectives with regard to the implementation of TQM, and inflexibility of the organisation towards environmental and technological changes.

Furthermore, Al-Khalifa and Aspinwall (2000) identified the main difficulties in implementing TQM in Qatar as lack of top management commitment and support, lack of empowerment at lower employee level, and a negative work climate. Al-Zamany (2002) revealed the presence of three major obstacles facing organisations in the implementation of TQM in Yemen, including inappropriate managerial traditions, and the government taking control of the assessment and selection of managers in public organisations, which meant that there was a lack of government-supported programmes for quality. There was also a lack of technical knowledge and training. Salaheldin (2003) made a study of TQM implementation strategy in Egypt, and suggests that Egyptian manufacturing organisations agree on the fundamental shortcomings of TQM implementation in their country. These include inadequate infrastructure, poor training, a reluctance from workers to become involved in decision making, and an insufficient knowledge base, all of which are regarded as inhibiting forces that restrict the introduction of TQM strategy.

Al-Marri et al. (2007) also found TQM to be a relatively novel concept in the UAE; there is evidence of inadequate understanding of the most important components that influence the process of TQM implementation, and a lack of knowledge about how these components should be introduced and managed. Chaker and Jabnoun (2010) investigated the barriers to service quality in Islamic banks in Qatar: lack of empowerment, centralisation, and lack of transformational leadership. They found that there was no impact of culture on service quality. These studies deal with the wider Arab world, but thus far there are no investigations and empirical studies that have been conducted into the barriers to TQM implementation in Libya.



Although, many organisations have encountered significant barriers to the achievement of TQM goals, a large and growing number of organisations have implemented TQM initiatives because of the multidimensional benefits it is claimed to bring (Ngai and Cheng, 1997; Salegna and Fazel, 2000; Yeung, and Armstrong, 2003; Jun et al., 2004). Few researchers have focused more directly on the obstacles that hinder the ability of organisations to make a successful transformation to TQM or quality management. From this review of the literature, it could be concluded that the main barriers and difficulties facing organisations in TQM implementation were centred on a lack of knowledge about TQM, a lack of top management commitment, lack of attention to a focus on customers and their satisfaction, a lack of training and education programmes, poor communication, lack of employee empowerment and involvement, employee resistance to change, insufficient reward systems, and the cultural factors.

#### **4.7 Chapter summary**

This chapter has built on the previous chapter, and aimed to provide an overview of the literature on TQM implementation factors, and organisational culture often cited and supported by researchers and gurus in these topics and fields. These factors included: top management commitment; customer focus and satisfaction; quality policy; employee training; employee involvement; employee empowerment; reward and recognition; communications and information system; benchmarking; and, continuous improvement. In addition, the researcher reviewed the concept of organisational culture. Moreover, organisational culture and their relationship to TQM were described. Furthermore, the researcher considered the obstacles that hamper TQM implementation in general, and discussed those specific to developing countries in particular. In the next chapter, the research methodology used for this study will be discussed.

## **Chapter Five: Research Methodology**

### **5.1 Introduction**

The chapter provides an overview of the research philosophy, approaches, and methods of data collection and data analysis. The research population, sample and the statistical methods that have been used for this research are then discussed. This chapter deals with the data collection methods that will be used in this study to evaluate the implementation of TQM in Libyan banks, and to explore the influence of organisational types on TQM implementation. In order to achieve these objectives, this study used both quantitative and qualitative methods to collect the data, using a survey questionnaire (quantitative) as the main tool, and interviews (qualitative) to obtain more information on TQM implementation and the impact of organisational culture on TQM implementation to support the findings from the questionnaire. Both methods aimed to elicit the perceptions of Libyan managers and supervisors about the adoption and implementation of TQM in the banking sector.

The aim of this chapter is to explain the research philosophy and design that has been employed by this study. More specifically, this chapter is structured as follows: it starts with a brief discussion of the research philosophies and the selected methodology. This is followed by an explanation of the research design. This is followed by a description of the data collection methods, questionnaire construction and pilot study, and content of the final draft of the questionnaire. Finally, the chapter ends with a discussion of the statistical methods used in this research.

## 5.2 Research Philosophy

Saunders et al. (2007, p.112) asserted that “a research philosophy or paradigm is a way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations attempted.” They highlighted that this term is frequently used in the social sciences, but that it can lead to confusion because it tends to have multiple meanings. In addition, Saunders et al. (2007) pointed out that the term ‘research philosophy’ relates to the development of knowledge and the nature of that knowledge. In addition, they added that the research philosophy contains important assumptions about the way in which the researcher views the world. These assumptions will underpin the research strategy and the methods which are selected as part of that strategy. Easterby-Smith et al. (2002) observed that the relationship between data and theory has been vigorously debated by philosophers for many centuries. These writers advanced the concept a step further when they considered how the failure to think through philosophical issues can seriously affect the quality of research.

This section will attempt to explore the research philosophy through the concept of research paradigms. Paradigm is defined as the progress of scientific practice based on people’s philosophies and assumptions about the world and the nature of knowledge shared by a group of individuals; in this context, a paradigm is a useful description of instances of agreement about how research should be conducted (Collis and Hussey, 2003). Paradigms as a concept are vital to the research process as it applies in all types of studies. According to Collis and Hussey (2003), there are a number of different types of research methodology, which reflect the assumptions informing research paradigms. However, two main research paradigms exist in the literature of business research: positivism and interpretivism (Amaratunga et al, 2002; Bryman, 2007; Saunders et al., 2007).

### **5.2.1 Positivism**

Positivism is founded on the belief that the study of human behaviour can be conducted in the same way as studies conducted in the natural sciences. Its basic assumption is that social reality is independent of the observer and exists as an apprehensible reality capable of being observed (Collis and Hussey, 2003). Positivism is an epistemological position that advocates the application of methods similar to those employed in the natural sciences to the study of phenomena and social reality (Bryman and Bell, 2007).

### **5.2.2 Interpretivism**

Unlike positivism, the interpretivist paradigm is predicated on the perception that research requires a strategy that respects the differences between people and the objects of the natural sciences; therefore it requires the social scientist to take account of the subjective meaning of social actions (Bryman and Bell, 2007). This paradigm is also expressed in the literature under different names, such as the naturalist, constructivist, and phenomenologist. It is concerned with understanding human behaviour from the participant's own frame of reference (Collis and Hussey, 2003). Saunders et al. (2007) defined interpretivism as an epistemology that advocates that it is necessary for researchers to understand the difference between humans in their role as social actors. This emphasises the difference between conducting research amongst people and carrying it out on objects such as trucks or computers. Amaratunga et al. (2002) summarised the main differences between the two approaches: positivism and interpretivism, as shown in table

5.1

**Table 5.1: Key Features of Positivist and Interpretivist Paradigms**

| <b>Theme</b>                     | <b>Positivism</b>   | <b>Interpretivism</b>   |
|----------------------------------|---|---|
| <b>Basic beliefs</b>             | The world is external and objective<br><br>Observer is independent<br><br>Science is value-free   | The world is socially constructed and subjective<br><br>Observer is part of what observed<br><br>Science is driven by human interests                           |
| <b>Researcher should</b>         | Focus on facts<br><br>Look for causality and fundamental laws<br><br>Reduce phenomena to simplest elements<br><br>Formulate hypothesis and then test them | Focus on meanings<br><br>Try to understand what is happening<br><br>Look at the totality of the situation<br><br>Develop ideas through induction from data      |
| <b>Preferred methods include</b> | Operationalising concepts so that they can be measured<br><br>Taking large samples<br><br><br><br>Statistical probability                                 | Using multiple methods to establish different views of phenomena<br><br>Small samples investigated in depth or over time<br><br><br><br>Theoretical abstraction |

Source: Amaratunga et al. (2002, p.19)

As can be seen from Table 5.1, each philosophy has its own assumptions regarding research design and methodology. Although these assumptions appear to contrast with one-another, in the case of the actual research methods and techniques used by researchers, the differences are by no means transparent, and, as Saunders et al. (2007) stated, the practical reality is that research rarely falls neatly into the positivist or phenomenological camps. This view is supported by Creswell (2009), who indicated that whilst it is now possible to draw up comprehensive lists of assumptions and methodological implications associated with each position, it is not possible to identify any single philosopher who ascribes to all aspects of one particular view. According to Saunders et al. (2007), the logical positivist paradigm uses quantitative and experimental methods to test hypothetical and deductive generalisations. Positivism searches for causal explanations and fundamental laws, taking large samples, and generally reduces the whole to its simplest possible elements in order to facilitate analysis. In contrast, interpretivism uses qualitative and naturalistic approaches to inductively and holistically understand human experience in a context-

specific setting, focus on meanings, and using multiple methods to establish different views of phenomena (Amaratunga et al., 2002). This paradigm seeks to comprehend and explain a phenomenon, rather than searching for external causes or fundamental laws. Furthermore, Amaratunga et al. (2002) have summarised the strengths and weaknesses of both approaches, as depicted in Table 5.2:

**Table 5.2: Approaches Strengths and Weaknesses**

| <b>Theme</b>          | <b>Strengths</b>   | <b>Weaknesses</b>   |
|-----------------------|--|---|
| <b>Positivism</b>     | <p>It can provide wide coverage of a range of situations</p> <p>It can be fast and economical.</p> <p>Where statistics are aggregated from large samples, they may be of considerable relevance to policy decisions.</p>   | <p>The methods used tend to be rather inflexible and artificial.</p> <p>It is not very effective in understanding processes or the significance that people attach to actions.</p> <p>It is not very helpful in generating theories</p> <p>Because it focuses on what is, or what has been recently, it make it hard for policy-makers to infer what changes and actions should take place in the future.</p> |
| <b>Interpretivism</b> | <p>Data gathering methods seen more as natural than artificial</p> <p>Ability to look at change processes over time.</p> <p>Ability to understand people's meaning.</p> <p>Ability to adjust to new issues and ideas as they emerge.</p> <p>Contribute to theory generation.</p> | <p>Data collection can be tedious and require more resources</p> <p>Analysis and interpretation of data may be more difficult</p> <p>Harder to control the pace, progress and end-points of research process</p> <p>Policy-makers may give low credibility to results from qualitative approach.</p>  |

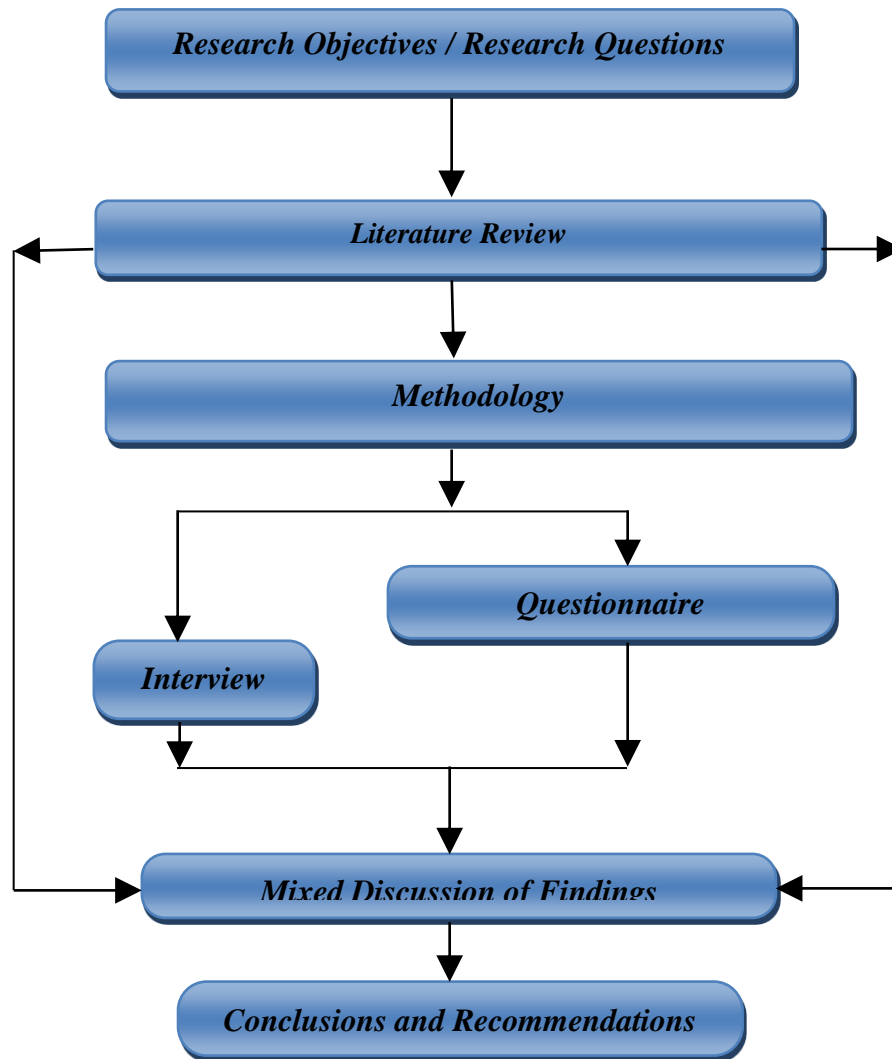
Source: Amaratunga et al. (2002, p.20)

In the current study, the positivist paradigm adopted for this research was determined by the nature of the research objectives investigated. The research used a positivist approach by employing a large survey sample to evaluate the level of TQM implementation, and to explore the influence of organisational culture on TQM implementation factors. A positivist approach was appropriate for this study as it tends towards the use of questionnaires for data collection and statistical analysis for specific hypothesis testing. Investigating relationships to find causal explanations for influences between variables is one of the main characteristics of a positivist philosophy. Furthermore, as it requires a formal and structured research process, it can provide recommendations for future strategies which are statistically reliable due to their objective criteria and procedures. Such reliability is achieved through the use of large sample sizes representative of the population, and allows results to be generalised.

### **5.3 Research Design**

Research design is very important to both the collection of data and its analysis. Indeed, it could be described as the plan through which the aims and objectives of the investigation are realised. Saunders et al. (2007) referred to this stage as the general planning stage determining how a researcher will attempt to achieve their research aims. According to Creswell (2012, p.20), “research design is the specific procedures involved in the research process: data collection, data analysis, and report writing.” He added that mixed method designs are procedures for collecting, analysing, and mixing both quantitative and qualitative data in a single study or a multiphase series of studies. The research design involves the planning of the actual study, dealing with such aspects as research paradigms, strategies, approaches, data collection methods, and data analysis techniques, which all impact on the extent to which the research aim and objectives are achieved

(Collis and Hussey, 2003). Therefore, the choice of research design depends on the research objectives and questions. The design will be constructed, step by step, to link the whole of the research together. Figure 5.1 gives an overview of the research design in this study.



**Figure 5.1 Research methods design**

Collis and Hussey (2003) and Creswell (2009) argued that a researcher must determine the research design at an early stage of the research project because this is a strategic choice and has a central role to play on critical activities which have significant effects on the whole research



## **5.4 Research Approach**

Research approaches can be divided into two types: deductive and inductive (Saunders et al., 2007). These two approaches delineate the nature of the relationship between theory and research (Bryman, 2007; Collis and Hussey, 2003).

### **5.4.1 Deductive Research**

Collis and Hussey (2003, p.15) defined deductive research as *“a study in which conceptual and theoretical structure is developed and then tested by empirical observation, thus particular instances are deducted from general inferences. For this reason, the deductive research is referred to as moving from the general to the particular.”* Deductive research thus uses data to develop theories based on hypothesis-testing (Saunders et al., 2007). According to Bryman and Bell (2007), the deduction process is as follows: theory, hypothesis, data collection, findings, hypothesis confirmation or rejection, and revision of theory.

### **5.4.2 Inductive Research**

Collis and Hussey (2003, p.15) defined inductive research as *“a study of which theory is developed from the observation of empirical reality, thus general inferences are induced from particular instances, which is the reverse of the deductive method.”* The inductive approach method is intended to develop theory based on the analysis of the data (Saunders et al., 2007). According to Bryman and Bell (2007), the inductive process is as follows: observations, findings and then theory. Saunders et al. (2007) summarised some of the major differences between deductive and inductive approaches, illustrated in Table 5.3:

**Table 5.3 Major Differences between Deductive and Inductive Approaches**

| <b>Deductive Research</b>  | <b>Inductive Research</b>   |
|--|---|
| Scientific principles and moving from theory to data.                                  | Gaining understanding of the meanings humans attach to events.          |
| The need to explain causal relationship between variables.                             | Concerned with generating theories.                                     |
| The collection of quantitative data.   | The collection of qualitative data.                                     |
| The application of controls to ensure the validity of data.                            | A more flexible structure to permit changes to the research progresses. |
| The operationalisation of concepts to ensure clarity of definition.                    | A realisation that the researcher is part of the research process.      |
| A highly structured approach.  | Less concern with the need to generalise.                               |
| Research independence from what is being researched.                                   |   |
| The necessity to select samples of sufficient size in order to generalise conclusions. |   |

Source: Saunders et al. (2007, p.120)

From the table above, it can be seen that this research can be described as a deductive research approach, relating more to the positivist research paradigm, as it takes the proposed theoretical concept (developed through secondary research) from theory building to testing theory using primary data (Saunders et al., 2007). Therefore, this study has moved from theory to data, whereby the literature of TQM, and organisational culture has been reviewed, allowing the researcher to conceptualise a theoretical framework and to develop hypotheses; an approach which leads to a deductive approach. In addition, this research involves collecting data through the use of a large scale survey (to select samples of sufficient size in order to generalise conclusions), and analysing data by statistical tests. Moreover, this research explores causal relationships between variables, through which the influence of organisational culture on TQM implementation factors has been explored. All of these aspects are key characteristics of the deductive approach.

## 5.5 Quantitative and Qualitative Methods

Collis and Hussey (2003) pointed out that some authors refer to the positivist paradigm as quantitative, and the interpretivist (phenomenological) paradigm as qualitative. Saunders et al. (2007) stated that the terms quantitative and qualitative are used widely in business and management research to differentiate between data collection techniques and data analysis procedures. The quantitative approach places considerable emphasis on the statistical generalisation of findings that seeks to explain and predict events in the social world. This is undertaken by examining the relationships between variables by taking measurements, and therefore conforms to the positivist methodological persuasion. The quantitative approach focuses on the causal relationship between phenomena. In other words, in order to arrive at evidence of the link between variables, there is a need to generate and analyse data in a logical and numerical form (Bryman, 2008). According to Bryman and Bell (2007), quantitative research can be construed as being a research strategy that emphasises quantification in the collection and analysis of data and that:

- Entails a deductive approach to relationships between theory and research, in which the accent is placed on the testing of theories;
- Has incorporated the practices and norms of the natural scientific model and positivism in particular; and
- Embodies a view of social reality as an external, objective reality.

Saunders et al. (2007) pointed out that qualitative methods are used predominantly as a synonym for any data collection technique (such as conducting interviews) or data analysis procedure (such as categorising data) that generates or uses non-numerical data. There is an array of interpretive

techniques available to employ with qualitative research, which seeks to describe, decode, translate and otherwise come to terms with the meaning, rather than the frequency, of certain observable and easily definable phenomena in the social world. It is possible to use qualitative techniques at both the data collection and data analysis stages, and the array of techniques available includes individual in-depth interviews, focus groups, case studies, ethnography, grounded theory, action research and observation (Cooper and Schindler, 2001). Qualitative research can be construed as a research strategy that usually emphasises words and impressions/opinions rather than quantification in the collection and analysis of data (Bryman and Bell, 2007, p.28). According to these authors, qualitative research:

- Predominantly emphasises an inductive approach to the relationship between theory and research, in which the emphasis is placed on the generation of theories;
- Has rejected the practices and norms of the natural scientific model and positivism in particular in preference for an emphasis on the ways in which individuals interpret their social world; and
- Embodies a view of social reality as a constantly shifting emergent property of individuals' creation.

Saunders et al. (2007) pointed out that there are two major advantages to choosing to use multiple methods in the same research project. The first is that different methods can be used for different purposes in a study. The second advantage of using mixed methods is that it enables triangulation to take place. For instance, semi-structured interviews may be a valuable way of triangulating data collected by other means, such as via a questionnaire. The research strategy of triangulation involves the simultaneous use of several techniques in order to validate data or the results of analyses. Bryman and Bell (2007) suggested that triangulation can be understood as a concept for

combining different methodological techniques to overcome the deficiencies of one specific technique. Rossman and Wilson (1991), cited in Amaratunga et al. (2002), stated that quantitative and qualitative methods are useful in enabling conformation with one-other via triangulation, in developing analyses and providing richer details, and in initiating new lines of thinking through attention to surprises or paradoxes, providing new insights.

According to Amaratunga et al. (2002), the combining of research methods (quantitative and qualitative) is very useful and powerful for gaining insights and results, and assisting in making inferences and drawing conclusions. They added that a combination of quantitative and qualitative methods can be used to overcome the weaknesses, biases and limitations that tend to occur when just one method is used. Furthermore, Teddlie and Thahakkori (2009) claimed that mixed methods are useful if they provide better opportunities for the researcher to answer research questions, and where they allow the researcher to better evaluate the extent to which the research findings can be trusted and inferences can be made from them.

In order to meet the research objectives, this study will rely on a combination of both quantitative and qualitative methods, including a questionnaire survey (quantitative) and semi-structured interviews (qualitative). These were conducted to elicit the opinion of Libyan managers, quality managers, supervisors and employees regarding the implementation of TQM, or to explore the influence of organisational culture on TQM implementation. This research employs triangulation, which will be achieved by the use of secondary methods consisting of the literature review, in addition to the primary research methods of questionnaires and semi-structured interviews. Therefore, the researcher found that the combined quantitative and qualitative approach, in the

form of questionnaires and semi-structured interviews, was an appropriate and flexible way to conduct this research. The reasons behind these choices are justified as follows:

- The combining of both approaches can be used to triangulate and overcome the weaknesses, biases and limitations of using just one of them.
- The research is to be conducted in the context of Libyan banks. It is designed to identify the level of the implementation of TQM and to explore the influence of organisational culture on TQM implementation in Libyan banks. The obstacles that may be preventing TQM implementation will also be explored. Achieving all of these aims requires the application of both quantitative and qualitative methods, including a questionnaire and semi-structured interviews to obtain more information regarding the implementation of TQM, and some facts to support the findings from the questionnaire. This is facilitated by the application of more than one data collection method and the exploration of the 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.
- The chosen research quantitative and qualitative approach is also used by other researchers who have conducted studies related to TQM and national and organisational culture in different countries. Those researchers found that a mixed-method approach combining questionnaires and interviews is the most applicable and acceptable research method in this field (Saraph et al. 1989; Flynn et al., 1994; Ahire et al., 1996; Chang and Wiebe, 1996; Dellana and Hauser, 1999; Mellahi and Eyuboglu, 2001; Lagrosen, 2003; Jabnoun and Sedrani, 2005; Prajogo and McDermott, 2005; Stock et al., 2007; Marri et al., 2007; Yong and Pheng, 2008; Jung et al., 2008; Salaheldin, 2009; Zu et al., 2010; Vecchi and Brennan, 2011).
- Based on the nature of the research questions and objectives, this study includes many variables to find causal explanations for the influence of organisational culture types on TQM implementation, and relationships between these variables. This requires the use of quantitative methods to find these relationships between variables.

- Statistical analysis of the quantitative data collected will make summarising and generalisation relatively easy and accurate, while qualitative data will provide a forum for elaboration, explanation and description of events, actions, attitudes and behaviour, and lead to more meaningful and new ideas from the perspective of the subjects being investigated (Bryman, 2008). This will provide a better understanding of the subject under investigation.

## **5.6 Data Collection Methods**

The appropriate selection of data collection methods depends mainly on enhancing the value of the research. In particular, the selected methods should enable the researcher to achieve the objectives of the study. Data can be collected in a variety of ways, in different settings and from different sources (Sekaran, 2003). The researcher seeks to identify the level of implementation of TQM in Libyan banks, and to explore the influence of organisational culture on TQM implementation. Therefore, the researcher must obtain enough information from the research to make this possible. When deciding to conduct research, regardless of the type of research, it is important for a researcher to choose the best data-collection method.

Saunders et al. (2007) stated that most research projects require some combination of primary and secondary data to answer research questions and meet objectives. These two methods of data collection can be used by any business research. According to Saunders et al. (2007), secondary data includes all the sources that are available to a researcher in order to obtain the necessary information to identify a research problem. Secondary data can be categorised as a documentary form of data collection rather than one involving a survey. Documentary data includes written (e.g. books, journals, reports) and non-written (e.g. television programmes and CD-ROMs) information. For this research, secondary data will be used to establish the history of the quality movement, TQM gurus, quality awards and the status of TQM in developed and developing countries, and to determine the critical success factors of TQM, as well as organisational culture

dimensions and types. The secondary data used in this research will be obtained from many sources, which can be classified as paper-based sources (books journals, periodicals, abstracts, research reports, conference papers, market reports and annual reports) and electronic sources (Business Source Complete (EBSCO), Emerald Journals (Emerald), and Science Direct).

On the other hand, primary data collection includes two main methods: questionnaires and interviews. A number of other methods can also be employed, either singly or in combination. A combination of methods is used in order to improve both the reliability and validity of the data gathered. The choice of data collection methods, including mail questionnaires, telephone interviews and face-to-face interviews, is significant because it affects the cost of the data collected.

The researcher seeks to determine the level of the implementation of TQM in Libyan banks, and to explore the influence of organisational culture on TQM implementation. In addition, the study seeks to identify the main barriers that effect or hinder on TQM implementation in the Libyan banks. Therefore, the identification and explanation of causal relationships between variables requires the collection of quantitative data (use of a questionnaire) as a deductive approach (Saunders et al., 2007), and then an analysis of the questionnaire. The researcher must therefore obtain enough information from the research to make this possible. Two methods will be used in this research: self- administered questionnaires and semi-structured interviews in order to support the questionnaire findings, as these are the most suitable to fulfil the objectives of this study. In addition, both approaches will be combined in order to overcome the weaknesses, biases and limitations that would be risked if just one method was used.



According to Teddlie and Tashakkori (2009), probably the most commonly methods occurring mixed-methods are questionnaires and interviews. This combination allows for the strengths of each strategy to beneficially combine with those of the other. Questionnaires can be used to inexpensively generate a large number of responses that produce information across a broad range of survey topics. Data gathered using interviews, on the other hand, is based on a relatively small number of respondents, who generate more in-depth information in response to queries from the interviewer.

### **5.6.1 Questionnaires**

The questionnaire strategy is usually associated with the deductive approach. It is a common strategy in business and management research, and is most frequently used to answer ‘who’, ‘what’, ‘where’, ‘how much’ and ‘how many’ questions (Saunders et al., 2007). It is also used in the vast majority of TQM, and organisational culture literature. The use of this technique has also been supported by Saraph et al. (1989), Denison and Spreitzer (1991), Flynn et al. (1994), Ahire et al. (1996), Chang and Wiebe (1996), Dellana and Hauser (1999), Al-Khalifa and Aspinwall (2000), Al-Zmany (2002), Chapman and Al-Khawaldeh (2002), Baidoun (2004), Prajogo and McDermott (2005), Cameron and Quinn (2006), Stock et al. (2007), Al-Marri et al. (2007), Jung et al. (2008), Salaheldin (2009), Zu et al. (2010) and Vecchi and Brennan (2011). Bell (1999, p.245) defined a questionnaire as:

*“... 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.”*

Bryman (2008) stated that questionnaires were the most suitable form of data and information collection from both staff and managers of organisations. Furthermore, Saunders et al. (2007)

stated that questionnaires can be self-administered, and are usually completed by the respondents. Questionnaires can be delivered and returned by e-mail (online questionnaires), by mail (postal questionnaires), or delivered by hand to each respondent and collected later (delivery and collection questionnaires). They added that a number of surveys use telephone questionnaires to contact respondents, particularly in market research. The final category, structured interviews, refers to those questionnaires where interviewers physically meet respondents and ask their questions face-to-face.

This study used questionnaires as the main quantitative tool, collecting data through self-administered questionnaires for the following reasons: the use of online questionnaires requires knowledge of email addresses for all respondents; a condition that cannot be guaranteed in the case of Libyan banks. Postal questionnaires can also not be guaranteed in the Libyan environment, because it has a weak postal service. Therefore, in this study, self-administered questionnaires were used as the main data collection method. This method was used because it was the most appropriate tool to suit the Libyan environmental conditions. In addition, the researcher used a questionnaire delivered by hand to each respondent and then collected again from their banks.

#### **5.6.1.1 Questionnaire Sample**

When undertaking quantitative data collection, it is important to consider the study population. Population refers to total number of elements, organisations, subjects or members from which it is possible for the researcher to collect data (Teddlie and Tashakkori, 2009; Collis and Hussey, 2003).

In this research, the population consists of three large banks and their branches, all of which have implemented the TQM approach. These banks were distributed throughout the three main Libyan cities: Tripoli, Benghazi and Misurata. The cities were chosen for the following reasons: the central headquarters of these banks and many of their branches are located in these cities; over half of the Libyan population lives in these cities; and, finally, the limited time and funds available for the researcher.

A total of 600 questionnaires were distributed to the respondents who were general managers, quality managers, supervisors and employees. This sample was chosen for the following reasons:

1. Managers are supposed to have a high level of education, and have the best understanding of TQM practice, planning, policies, decision-making and training, involvement and empowerment issues, which play an important role in organisations, as well as all the influential factors such as organisational culture, and barriers which could affect the effectiveness of TQM.
2. Quality managers have an important role in the implementation of TQM in the organisation. They ensure the success of the performance of TQM functions through their support, commitment and opinions, making sure that TQM processes are established and implemented, and promoting awareness of customer requirements throughout the organisation. They have a wide range of experience and knowledge about the difficulties and problems facing the implementation of TQM.
3. Supervisors and employees represent the first line of the management or operational level; they also have an important role in the implementation of quality management and play a role in its daily tasks. This group has been targeted to establish their points of view on the level of implementation of TQM, and also to help understand the barriers that affect the implementation of TQM, and issues related to organisational culture.

The rationale for choosing these respondents was derived from Madu et al. (1996), who considered those people to be a good source of information relating to quality practice inside any

organisation because they are: (1) the executors of top management decisions; (2) positioned to interact with both top management and shop floor level and are able to understand the performance of their organisations as well as the reactions of shop floor level employees in relation to quality practices; (3) able to understand quality-related problems that may affect an organisation, (4) have the right information to respond to quality-related questionnaires.

#### **5.1.2.2 Questionnaire Translation and the Pilot Study**

The pilot study enables the researcher to assess the validity of the questions and the likely reliability of the data to be collected. According to Teddlie and Tashakkori (2009), a pilot study is either a small-scale implementation of a design or a set of steps taken to ensure the quality of future data collection procedures. They added that a pilot study is a stage of research which collects a small amount of data to ‘test drive’ procedures, identify possible problems in data collection protocols, and set the stage for the actual study. In this study, a three-stage pilot study was conducted to assure that the questionnaire design was appropriate and effective.

At the first stage, a first draft of the questionnaire was drawn up in English, and reviewed and assessed by the researcher’s supervisors, after which necessary changes were made. The researcher then consulted certain Libyan PhD students, who were studying for their PhD degrees at the University of Gloucestershire, and circulated a sample of the questionnaires to gain some feedback on the questionnaire in terms of the design, wording and length of the questionnaire, in addition to some other comments concerning organisational culture in the Libyan context. All the participants (PhD students) had experience in the Libyan context as researchers, lecturers, or employees working in banks.

At the second stage, the final draft was translated into Arabic by the researcher, and the translation was revised with the assistance of two senior Libyan lecturers majoring in business studies at Garyounis University in Libya. The questionnaire was then sent to two academic members of staff at Garyounis University, who specialise in English/Arabic translation, so that they could revise it and make it very clear for the respondents. Next the pilot questionnaire was distributed in both English and Arabic to four senior Libyan lecturers who were specialists and experts in TQM and organisational behaviour at Garyounis University. They fed back certain useful comments on the questionnaire to the researcher in terms of content, structure and the translation of the questionnaire.

At the third stage, thirty questionnaires in Arabic were distributed to three banks. The objective of this stage was to explore any ambiguity or confusion in the questions, and to find out whether the participants had any suggestions to make. Fifteen of the questionnaires were returned to the researcher. The respondents indicated that the questionnaire was clear and easy to complete. The purpose of these stages and drafts was to ensure that the questionnaire design was appropriate for the study's objectives, in addition to suiting the nature of Libyan society. This was to improve the questionnaire and make it easier to answer and analyse.

### **5.6.3.3 Questionnaire Contents**

The final structure of the questionnaire included four parts as follows (see Appendix A):

**Part one:** General information: this section is concerned with obtaining information about the general background of the participants, such as gender, age, educational level, work experience and current position. It also includes information about the population of the study, such as banks' ownership, employee numbers and number of branches.

**Part two:** This section is concerned with achieving the first objective, which seeks to identify the level of TQM implementation in the Libyan banks through fifty six statements. It therefore consists of several parts, each of which is designed to explore a particular aspect of TQM implementation factors. These factors are top management commitment; customer focus and satisfaction; quality policy; employee training; employee improvement; employee empowerment (reward and recognition); communication and information system; benchmarking and continuous improvement.

**Part three:** This section consists of sixteen statements describing types of organisational culture through the measurement of: developmental culture, hierarchal culture, group culture and rational culture. The purpose of this part is to achieve the second objective, which explores the influence of organisational culture types on the implementation of TQM.

**Part four:** The purpose of this section is to achieve the fourth objective, which seeks to identify the main obstacles, if any, that prevent the implementation of TQM in the Libyan banks. This part includes twelve factors from the literature which represent barriers to the successful implementation of TQM.

#### **5.6.3.4 Response Rate of Questionnaire**

The questionnaire was distributed to three banks which have implemented TQM in Libya. A total of 600 questionnaires were distributed personally by hand to the selected banks. 467 questionnaires were returned, of which 455 were completed and usable, while 12 questionnaires were either incomplete or ineligible. The response rate was 79.42%, which is considered a good

rate. According to Bryman and Bell, (2007) and Saunders et al. (2007), the response rate is calculated by using the following formula:

$$\begin{aligned} \textit{Total response rate} &= \frac{\textit{Total number of responses}}{\textit{Total number in sample} - \textit{ineligible}} \\ &= \frac{467}{600 - 12} = 79.42\% \end{aligned}$$

Completed questionnaires were therefore received from 455 respondents, representing a response rate of 79%, which can be considered very high. The high response rate could be attributed to the great efforts were made to increase the response rate, including:

1. The researcher distributed and collected the questionnaire by hand and requested help from certain colleagues, who are lecturers at Garyounis University in Libya.
2. The researcher contacted the Department of Graduate Studies at Garyounis University and asked them to issue a formal letter addressed to the targeted banks (see Appendix B), requesting them to cooperate with the researcher as a postgraduate student studying abroad and embarking on the phase of collecting his fieldwork data. The letter stated that this data was an essential requirement of the study.
3. The researcher used his personal and social relationships in the distribution of the questionnaire. The researcher sought help from a number of friends who work in the targeted banks in Libya to assist with distributing and collecting the questionnaires.
4. The questionnaire did not contain the names of the participants or the banks. This was intended to increase the number of questionnaires returned.

### **5.6.2 Semi-structured Interviews**

The second data-collection method in this study was semi-structured interviews, which were used as the qualitative research method to provide data to support the questionnaire. Interviews allow the gathering of rich data from people in various roles and situations (Myers, 1997). In the same context, Cooper and Schindler (2001) pointed out that the interview is the primary data collection technique for gathering data in the qualitative methodology. Interviews vary, depending on the number of people involved in the interview, the level of structure, the proximity of the interviewer to the participant, and the number of interviews conducted during the research. Collis and Hussey (2003) defined an interview as a method of collecting data in which participants are asked questions in order to find out what they do, think or feel. According to Teddlie and Tashakkori (2009), an interview is a data collection research strategy that involves one person (the interviewer) asking questions of another person (the interviewee).

According to Saunders et al. (2007), personal face-to-face interviews can be divided into three types: in-depth unstructured informal interviews, structured interviews and semi-structured interviews. In the structured or standardised interview, a set of pre-determined questions is asked and the responses are recorded on a standard schedule. The semi-structured interview is a non-standardised interview where the researcher has a list of questions to cover during the interview. However, semi-structured interviews are widely used research methods that have the advantage of being flexible, as it is possible to follow up and probe the answers, which often leads to additional information being obtained. An unstructured or informal interview, also called an in-depth interview, 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, the respondent is given the chance to



talk freely about the situation, event, behaviour or beliefs in relation to the topic area (Saunders et al. 2007).

Conducting interviews as a data collection method confers several advantages, and the use of interviews increases the researcher's confidence in the questionnaire data. Moreover, the interview gives the researcher the opportunity to probe deeply to uncover new clues, open up new dimensions of a problem, and elicit accurate information based on personal experience. In addition, interviews provide the opportunity to identify the non-verbal clues present, such as the behaviours, feelings, inflection of the voice and facial expressions, and these can all be used to develop secondary questions (Easterby-Smith et al., 2002; Collis and Hussey, 2003) . An interview might be appropriate when questions require a good deal of thought and responses need to be explored and clarified. This process often gives the researcher an added degree of confidence in the replies, which is not the case in questionnaires (Easterby-Smith et al., 2002; Teddlie and Tashakkori, 2009). According to Saunders et al. (2007), semi-structured interviews can be used to explain and explore themes that have emerged from the use of a questionnaire. They indicated that *“semi structured interviews are used not only to reveal and understand what and the how but, also, to place more emphasis on exploring the why.”*

This stage of the investigation is designed to help understand the process of TQM implementation, assess the level of implementation and explore the influence of organisational cultures have on TQM implementation. Information regarding the level of TQM implementation and identifying the obstacles to implementation faced by the Libyan banking sector, as well as the influence of cultures, was acquired by conducting semi-structured interviews. These complemented the questionnaires and helped to explore or explain any further details,

information, themes and facts under investigation behind the questionnaire's responses; in other words they supplemented and validated the questionnaires' findings. In addition, the interviews provided the researcher with some important information when interpreting the questionnaires' findings. The researcher has conducted interviews with nine of general managers, quality managers, and supervisors. The researcher used information obtained from interviews to support the questionnaires' findings regarding the implementation of TQM, and exploring the impact of organisational cultures on the implementation of TQM and the performance of Libyan banks.

### **5.7 Fieldwork Process**

The fieldwork for this study was conducted in Libya between the beginning of July 2010 up to the end of September 2010. For the purposes of this research, the fieldwork phase consisted of two stages: the pilot study stage, as discussed in Section 5.8.1.2 above, and the actual fieldwork stage. The researcher visited the Libyan banks targeted in this study, and obtained permission from the relevant departments to distribute the questionnaire and conduct interviews with certain managers, quality managers and supervisors, urging them to help the researcher to collect the data and information required. In addition, the researcher delivered the questionnaire, together with a cover letter from the Department of Graduate Studies at Garyounis University (see Appendix B); this was intended to encourage participants to cooperate with the researcher, as a postgraduate student studying abroad, in the fieldwork data collection phase. The letter stated that this data was an essential part of the study requirements.

A total of 600 questionnaires were distributed within the three banks and their branches; the sample comprised all general managers, quality managers, supervisors, and employees. The researcher asked the respondents to contact him if they had any trouble understanding or found anything ambiguous when answering any questions. It is also worth mentioning at this stage that

the researcher sought help from certain colleagues, who are lecturers at Garyounis University in Libya, with distributing and collecting those questionnaires. In addition, through these visits, the researcher sought help from a number of friends and employees who worked at the targeted banks in Libya - the researcher had taught a number of employees when he was a lecturer at the University of Garyounis - in the distributing and collecting of these questionnaires. This approach was extremely successful and had a significant influence on the response rate.

A total of 467 questionnaires were returned, 12 of which were unusable (incomplete); therefore, a total of 455 questionnaires were usable. This number equates to a high response rate of 79.42%. All the data in these questionnaires was entered into the SPSS programme, version 16.0, for analysis. The self-administered questionnaire was used as the data collection method because this was the most appropriate tool for the Libyan environmental conditions, which were characterised by weak postal and internet services.

The second data collection phase of the fieldwork consisted of interviews with managers, quality managers and supervisors. The main purpose of this stage was to obtain clear answers to the points included in the questionnaire, and to support the results of the questionnaire. Regarding the place and time of the interviews, a flexible policy was used to suit the circumstances and wishes of the targeted individuals. It should be noted in this instance that both formal and informal communication was used in order to make the necessary arrangements to conduct those interviews. Nine interviews that took place, the interviews also were conducted of targeted individuals at their banks. The researcher therefore reiterated the confidentiality of the data and information provided by the respondents. Each interview with managers and supervisors took around 45 to 60 minutes.

Although the fieldwork study was successful, some difficulties were experienced. The banks under investigation were distributed over three geographic regions: Tripoli, the capital city; Benghazi, the second biggest city; and Misrata. The distance between Benghazi and Tripoli is 1000 kilometres; this created some tension for the researcher, as travel between regions is not always straightforward, and the researcher had access to limited financial resources for field trips. The second problem was that the researcher was obliged to visit the banks and their branches many times to collect the questionnaires.

## **5.8 Reliability and Validity Evaluation**

Bryman and Cramer (2001) mentioned that measurements of validity and reliability constitute the most important criteria in assessing the accuracy of findings obtained in any research. It is generally agreed that when a means of measuring a concept is proposed, it must be both reliable and valid. The current study used mixed methods: quantitative (questionnaire) and qualitative (semi-structured interviews). A range of statistical and qualitative analysis techniques were then employed by the researcher in all research stages to ensure the validity and reliability of the research findings. These are described below:

### **5.8.1 Reliability**

According to Zikrnund (2003, p.300), “*reliability is the degree to which measures are free from error and therefore yield consistent results.*” An instrument is consistent if the items are highly correlated with each other; therefore, they are likely to measure the same homogenous variable (Churchill, 2001). Cronbach’s alpha coefficient is a widely used measure of internal consistency or reliability in the social sciences, business, and other disciplines. Cronbach’s alpha values range from zero to one. Nunally (1978, p.124) proposed that even a value of 0.60 is acceptable in

exploratory research, as long as there is a sound theoretical argument for keeping the scale or individual items within the scale. On the other hand, Sekaran (2003) recommended that when alpha coefficient scores are less than 0.60, they should be considered as poor. This was confirmed by Hair et al. (1998), who suggested that a minimum reliability level to be acceptable for 'alpha' is 0.60. In this study, Table 6.2 (in the next chapter) shows Cronbach's alpha results for independent and dependent variables. The Cronbach alpha technique is usually used to measure internal consistency reliability, which involves computing mean reliability coefficient estimates, in which the reliability coefficient ranges from 0.679 to 0.893, showing the validity of the independent and dependent variables.

### **5.8.2 Validity**

According to Saunders et al. (2007), validity is the extent to which data collection methods accurately measure what they were intended to measure. Teddlie and Tashakkori (2009) mentioned that validity refers to the degree to which measurement outcomes differentiate groups of individuals who are expected to be different in terms of a particular attribute. Several types of validity tests are identified. Criterion, content and construct validity are usually used to assess measurement validity (Hair et al., 1998). Criterion validity assesses whether a construct performs as expected relative to other variables identified as meaningful criteria (Hair et al., 1998). Two terms 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 topic (Oppenheim, 1992). It is established when the results obtained from the scale used are consistent with the results of other scales that are used to measure the same object (Oppenheim, 1992). The second is predictive validity, which refers to the ability of the measuring instrument to differentiate among individuals with reference to a future criterion (Sekaran, 2003).

The second type of validity is content validity. It ensures that the measurement scale includes an adequate and representative set of items that represent the concept (Sekaran, 2003). Content validity can be determined by a careful definition of the research topic, and the items included in the measurement scale (Cooper and Schindler, 2001). In addition, a group of experts can comment and judge on the suitability of the questionnaire, as well as allowing suggestions to be made to the structure of the questionnaire (Saunders et al., 2007). To meet the content validity requirements for this study, 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 placed emphasis on meeting the validity and reliability requirements. In addition, the questionnaire items were scrutinised and pre-tested by the researcher's supervisor, PhD students, academic experts and target banks to judge the content validity of the questionnaire. The third type of validity is construct validity. Factor analysis was used in this study to reduce the large number of variables in the TQM scale to a more manageable set of variables (Badri et al., 1995; Sila and Ebrahimpour, 2002; Demirbag et al., 2006; Gadenne and Sharma, 2009); and to test the construct validity of research measures (Cooper and Schindler, 2001).

## **5.9 Research Hypotheses**

A hypothesis is a formal statement of some unproven supposition that tentatively explains certain facts or phenomena (Hair et al, 1998). The hypotheses were formulated based on the literature review and previous research, which has 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 identify the level of TQM implementation in the Libyan banks. The literature sources that were reviewed in chapter three and four, which explained that could identify the level of TQM implementation through

measuring the critical success factors of TQM (CSFs) (Saraph et al., 1989; Flynn et al. 1994; Powell, 1995; Ahire et al., 1996; Black and Porter, 1996; Al-khalifa and Aspinwall, 2001; Sila and Ebrahimpour, 2002; Oakland, 2003; Al-Marri et al. 2007; Salaheldin, 2009). To achieve this objective, the following hypotheses for measuring the level of TQM implementation in Libyan banks were formulated:

**1. TQM implementation is very low when:**

*H<sub>0</sub>*: The level of TQM implementation is very low in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is higher than very low in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 1.80**

**H<sub>1</sub>: median > 1.80**

**2. TQM implementation is low when:**

*H<sub>0</sub>*: The level of TQM implementation is low in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is higher than low in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 2.6**

**H<sub>1</sub>: median > 2.6**

**3. TQM implementation is medium when:**

*H<sub>0</sub>*: The level of TQM implementation is medium in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is higher than medium in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 3.40**

**H<sub>1</sub>: median > 3.40**

**4. TQM implementation is high when:**

*H<sub>0</sub>*: The level of TQM implementation is high in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is very high in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 4.20**

**H<sub>1</sub>: median > 4.20**

The second objective of this study is to explore the influence of organisational culture types on TQM implementation. Therefore, the literature sources that were reviewed in chapter four, which explained that organisational culture has a positive effect on the TQM implementation (Kekale and Kekale, 1995; Oakland, 2003; Lagrosen, 2003; Kujala and Lillrank, 2004; Prajogo and McDermott, 2005; Cameron and Quinn, 2006; Stock et al., 2007; Yong and Pheng 2008; Zu et al., 2010) . According to this, the general hypothesis was formulated as shown in the following:

*H<sub>0</sub>: Organisational culture types have no positive influence on TQM factors*

*H<sub>1</sub>: Organisational culture types have a positive influence on TQM factors*

The following four hypotheses were derived through the general hypothesis, to explore the influence the four types of organisational culture on TQM implementation factors:

*H<sub>1a</sub>*: Developmental Culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, employee empowerment, reward and recognition, communication and information system, benchmarking, and continuous improvement).

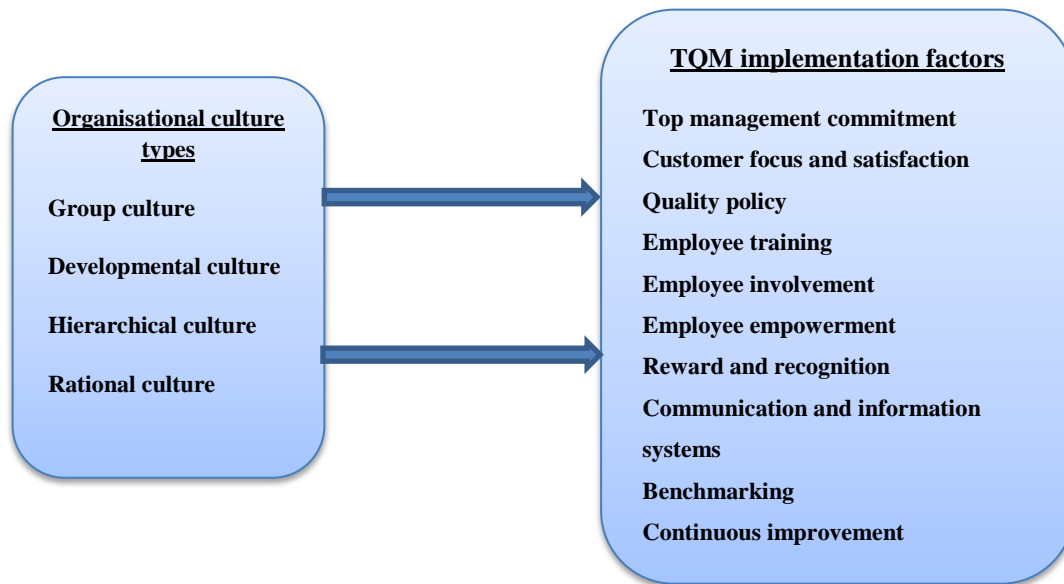
*H<sub>1b</sub>*: Hierarchical culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, employee empowerment, reward and recognition, communication and information system, benchmarking, and continuous improvement).

*H<sub>1c</sub>*: Group culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, employee empowerment, reward and recognition, communication and information system, benchmarking, and continuous improvement).

*H<sub>1d</sub>*: Rational culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, employee empowerment, reward and recognition, communication and information system, benchmarking, and continuous improvement).



Building on the above suggested research hypotheses, this study adopted a proposed model that aimed to identify and to explore the influence of organisational culture on TQM implementation. The proposed model is illustrated in figure 5.2



**Figure 5.2 Hypothesis model**

### **5.10 Data Analysis and Statistical Methods**

This study used a quantitative method (questionnaires were the main tool) for data collection, and a qualitative method (semi-structured interviews were the secondary tool, which were conducted with general managers, quality managers and supervisors in order to obtain more information about TQM implementation and cultures in Libyan banks, as well as the themes that emerged from the questionnaires). Statistical techniques were used to analyse the data obtained to help interpret the results of this study. All the statistical analysis was carried out using SPSS (Statistical Package for the Social Sciences), version 16.0.

The relationships between the variables, research objectives, and the nature of the data are considered the basis for selecting the correct statistical methods. The first statistical techniques

used in this research were descriptive statistics, which are methods used to describe data and their characteristics. Descriptive statistics of the data analyses were used in terms of means and standard deviations to find the respondents' demographic characteristics. Descriptive statistics were also used to evaluate the level of TQM implementation in the Libyan banks. In addition, statistical inference using a test of hypotheses is conducted for the same purpose; this is implemented by the Wilcoxon test. The Wilcoxon rank-sum test is a non-parametric statistical test, designed to test whether a particular sample comes from a population with a specified median. The significance test is simpler to use than the more powerful nonparametric tests, and is popular, especially when intending to use computer software packages (Conover, 1999). The Wilcoxon test is one of the best well-known non-parametric significance tests (Sheskin, 2000).

The Wilcoxon assumptions for a single independent sample are:

- The sample is a random sample.
- The measurement scale is at the least interval.
- The underlying population distribution is symmetrical. (Sheskin, 2000).

The Wilcoxon Signed-Ranks test is used to test whether a single random sample of size  $n$ ,  $X_1, X_2, X_3, \dots, X_n$  comes from a population in which the median value is a known value  $m$ .

A. Upper-sided test

$H_0$ : The median of  $X$  is  $\leq m$ .

$H_a$ : The median of  $X$  is  $> m$ .

B. Lower-sided test

$H_0$ : The median of  $X$  is  $\geq m$ .

$H_a$ : The median of  $X$  is  $< m$ .

In addition, factor analysis was used to reduce the large number of TQM variables, and to test the construct validity of research measures. The researcher also used a multiple regression analysis in this study in order to achieve the second and third objectives. Multiple regression was used as a

statistical technique to explore the influence and relationships of organisational cultures on the level of TQM implementation. In addition, the backward selection method was used in this study to find the best model of regression to examine the hypothesis concerning the influence of independent on dependent variables. Furthermore, Kruskal-Wallis was used in this research to investigate any differences concerning the organisational culture types among respondents in the three banks. The Kruskal-Wallis test was also used to test whether there were any differences in organisational culture types among the respondents from the branches of each bank. Kruskal-Wallis is a statistical test that is used to determine whether there is a significant difference between three or more samples.

### **5.11 Chapter Summary**

Chapter five discussed the key aspects of the methodology used in this study in terms of the research design, philosophy, approach and methods. Data analysis was mentioned with reference to the statistical methods used in this research. A questionnaire was used as the main method of data collection; this choice was explained and justified in this chapter. A number of semi-structured interviews were conducted with general managers, quality managers and supervisors in order to gain a greater understanding of some of the issues in the research. This chapter also explained how the pilot study was conducted to ensure the validity of the questionnaire. The fieldwork process was also explained in terms of the distribution and collection of questionnaires and semi-structured interviews. In addition, the chapter discussed reliability and validity, as well as the statistical methods used in the data analysis to achieve the objectives of this research. Data analysis and the research findings will be discussed in the next chapter.

## **Chapter Six: Data Analysis and Findings**

### **6.1 Introduction**

The methodological framework used for the research was presented in the previous chapter. The objective of this chapter is to present and analyse the data obtained from the questionnaires. The chapter is hence divided into four main parts. Following an introduction of the sample characteristics, the first part addresses the first research objective by determining the level of TQM implementation in the Libyan banking sector. The objective of the second part is to explore the influence of organisational culture types on the implementation of TQM factors. Finally, the third section describes the main barriers to TQM implementation in Libyan banks.

### **6.2 Sample Characteristics**

To analyse the questionnaire findings, descriptive statistics which dealt with the respondents' profiles, were employed in this part of the questionnaire. These concerned various demographic factors such as gender, age, educational level, experience and position in Libyan banks, as shown in Table 6.1.

#### **1. Gender and age of respondents**

Table 6.1 shows that 67% of 455 respondents were male and 33% female. The table also shows that the majority of respondents (74.1%) were aged between 31 and 50.

#### **2. Level of Education**

It is noteworthy that the majority of the respondents (90.7%) had at least a bachelor degree. This indicates that the respondents were well-educated and that Libyan banks employ well-qualified people as managers and general employees.

### 3. Position of Respondents

With regard to the distribution of respondents by hierarchical level, the table shows that the majority of the respondents (44.2 %) were employees, 24.6 % were supervisors and 27.5 % were general and middle managers.

**Table 6.1 the characteristics of respondents**

| <b>1. Gender</b>                        | <b>Frequency</b> | <b>Percentage</b> |
|---|------------------|-------------------|
| Male                                    | 305              | 67.0              |
| Female                                  | 150              | 33.0              |
| Total                                   | 455              | 100%              |
| <b>2. Age</b>                           |                  |                   |
| 20-30                                   | 77               | 16.9              |
| 31-40                                   | 207              | 45.5              |
| 41-50                                   | 130              | 28.6              |
| Over 51                                 | 41               | 9.0               |
| Total                                   | 455              | 100%              |
| <b>3. Educational level</b>             |                  |                   |
| High school or equivalent               | 42               | 9.2               |
| Bachelor degree                         | 320              | 70.3              |
| Master degree                           | 73               | 16.0              |
| PhD                                     | 20               | 4.4               |
| Total                                   | 455              | 100%              |
| <b>4. Position of respondents</b>       |                  |                   |
| General manager                         | 46               | 10.1              |
| Middle manager                          | 79               | 17.4              |
| Quality manager                         | 17               | 3.7               |
| Supervisor                              | 112              | 24.6              |
| Employee                                | 201              | 44.2              |
| Total                                   | 455              | 100%              |
| <b>5. Number of years of experience</b> |                  |                   |
| 1-4 years                               | 84               | 18.5              |
| 5-10 years                              | 143              | 31.4              |
| 11- 15 years                            | 122              | 26.8              |
| 16-20 years                             | 31               | 6.8               |
| 21-25 years                             | 44               | 9.7               |
| 26-30 years                             | 31               | 6.8               |
| <b>Total</b>                            | <b>455</b>       | <b>100%</b>       |

#### **4. Years of Experience**

The experience of respondents is among the most important factors in providing high quality information. More reliable or comprehensive information about the position of the banks is expected when more experienced employees are surveyed. Table 6.1 shows that the respondents had a good level of experience, with nearly (49.9%) having more than 11 years' experience in their organisations. This enabled them to provide the researcher with sufficient and accurate information and to enable the level of quality management in their banks to be examined. The table also shows that 31.4% of respondents had been with their companies for between five and 10 years, while only 18.5% had been in their positions for less than five years.

#### **6.3 Factor Analysis**

Factor analysis is a statistical technique that can be used to analyse inter-relationships among a large number of variables and to explain these variables in terms of their common dimensions (factors). One of the major uses of factor analysis is to summarise data to make it manageable without losing any of its important information, thereby making it easier to test theories (Field, 2009; Tabachnick and Fidell, 2007). According to Zikmund (2010) the aim of factor analysis is to reduce a large number of variables to as few dimensions or constructs as possible. Field (2009) stated that there are three main reasons for using factor analysis: to understand the structure of a set of variables; to construct a questionnaire to measure an underlying variable; and to reduce the variables to a manageable size while retaining as much of the original information as possible. The general purpose of factor analysis is to summarise the information contained in a large number of variables into a smaller number of factors. Therefore, this study used factor analysis to identify TQM factors in the Libyan banks.

The most common method of factor analysis is principal component analysis (PCA), and the most common method of factor rotation is the varimax rotation (Zikmund et al., 2010; Gray and Kinnear, 2012). Factor rotation is also used as a method to interpret factors by showing the variables that group together (Pallant, 2007). Factor rotation identifies a smaller set of factors with eigenvalues greater than or equal to 1.0. This involves each of the variables loading strongly on only one factor (component) and each factor (component) being represented by a number of strong loading factors. According to (Zikmund et al., 2010) factor loadings are the correlation of the variable with the factor. When the loading is clear then the interpretations of the factors become easier (Zikmund et al., 2010). Hair et al. (1998) define factor loading as: correlation between the original variables, which is the key to understanding the nature of a particular factor. Squared factor loadings indicate what percentage of the variance in an original variable is explained by a factor. In addition, they pointed out that factor loadings should be evaluated at considerably stricter levels, and employ the concept of statistical power to specify factor loadings considered significant for differing sample sizes. In this study, the cut-off margin for analysing the factor loadings was 0.30 (30 per cent variance explained) based on the guidelines of Hair et al. (1998). Table 6.2 contains the sample sizes necessary for each factor loading value to be considered significant.

**Table 6.2: Guidelines for Identifying Significant Factor Loadings Based on Sample Size**

|  |     |     |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>Factor Loading</b>                        | .30 | .35 | .40 | .45 | .50 | .55 | .60 | .65 | .70 | .75 |
| <b>Sample Size Needed for Factor Loading</b> | 350 | 250 | 200 | 150 | 120 | 100 | 85  | 70  | 60  | 50  |

Source: Hair et al., 1998, p. 112

In addition, principal component analysis looks at the correlation of different variables to reveal the relationship between them, and then reduces the variables by empirically summarising them or combining them into a small number of factors under common themes (Tabachnick and Fidell, 2007). Principal component analysis (PCA) is considered as the most commonly used approach

and has been used widely in quality management disciplines by researchers (Badri et al., 1995; Dahlgaard et al., 1998; Antony et al., 2002; Sila and Ebrahimpour, 2002; Sebastianelli and Tamimi, 2003; Demirbag et al., 2006; Gadenne and Sharma, 2009). PCA can be used to reduce a large number of related variables to a more manageable number, prior to using them in other analyses such as multiple regression.

Prior to performing PCA, the Kaiser-Meyer-Olkin (KMO) test of sampling adequacy and Bartlett's test of sphericity should also be computed to determine the factorability of the correlation matrix (Pallant, 2007). The KMO index ranges from 0 to 1, with 0.50 suggested as the minimum value for valid factor analysis (Hair et al., 1998, Tabachnick and Fidell, 2007; Gray and Kinnear, 2012). Bartlett's test of sphericity measures the correlation among variables. Tabachnick and Fidell (2007) stressed that Bartlett's test of sphericity should be significant at ( $p < 0.05$ ). In this study, the value of the KMO was .698, which was more than .50, making it acceptable (see Table 6.3). This means that data was suitable for factor analysis and consequently factor analysis was valid. Bartlett's test of sphericity had a significance of (P-value = .000), which means that there was a significant correlation among TQM factors.

**Table 6.3: KMO and Bartlett's Test**

|  |           |
|--|-----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | .698      |
| Approx. Chi-Square                               | 13482.586 |
| Bartlett's Test of Sphericity                    |           |
| df   | 741       |
| Sig.   | .000      |

The principal component analysis (PCA) also used to extract the factors with eigenvalues greater than 1.0. The results found eight components obtained eigenvalues greater than one as the underlying structure of TQM factors. Eight factors with loading values greater than 0.30 were identified for TQM implementation in the Libyan banks (as shown in Table 6.2) based on Hair et



al. (1998) guidelines. Out of 54 items 34 had factor loadings. The explanatory percentage of variance of these eight factors accounted for 67.132% of total variance. These results are shown in table 6.4

**Table 6.4: The Results of Principal Component Analysis**

| Label                           | No. of Items | No. of Questions | Factor Loadings |        |        |        |       |        |        |        |
|---------------------------------|--------------|------------------|-----------------|--------|--------|--------|-------|--------|--------|--------|
|                                 |              |                  | F1              | F2     | F3     | F4     | F5    | F6     | F7     | F8     |
| Customer focus and satisfaction | 5            | Q11              | .839            |        |        |        |       |        |        |        |
|                                 |              | Q7               | .712            |        |        |        |       |        |        |        |
|                                 |              | Q10              | .689            |        |        |        |       |        |        |        |
|                                 |              | Q8               | .662            |        |        |        |       |        |        |        |
|                                 |              | Q12              | .566            |        |        |        |       |        |        |        |
| Top management commitment       | 5            | Q5               |                 | .827   |        |        |       |        |        |        |
|                                 |              | Q4               |                 | .723   |        |        |       |        |        |        |
|                                 |              | Q3               |                 | .689   |        |        |       |        |        |        |
|                                 |              | Q2               |                 | .567   |        |        |       |        |        |        |
|                                 |              | Q6               |                 | .490   |        |        |       |        |        |        |
| Employee training               | 4            | Q23              |                 |        | .820   |        |       |        |        |        |
|                                 |              | Q18              |                 |        | .723   |        |       |        |        |        |
|                                 |              | Q19              |                 |        | .772   |        |       |        |        |        |
|                                 |              | Q22              |                 |        | .488   |        |       |        |        |        |
| Quality policy                  | 4            | Q13              |                 |        |        | .759   |       |        |        |        |
|                                 |              | Q16              |                 |        |        | .655   |       |        |        |        |
|                                 |              | Q14              |                 |        |        | .572   |       |        |        |        |
|                                 |              | Q17              |                 |        |        | .454   |       |        |        |        |
| Employees involvement           | 4            | Q27              |                 |        |        |        | .771  |        |        |        |
|                                 |              | Q28              |                 |        |        |        | .751  |        |        |        |
|                                 |              | Q25              |                 |        |        |        | .610  |        |        |        |
|                                 |              | Q24              |                 |        |        |        | .416  |        |        |        |
| Benchmarking                    | 4            | Q45              |                 |        |        |        |       | .705   |        |        |
|                                 |              | Q46              |                 |        |        |        |       | .698   |        |        |
|                                 |              | Q48              |                 |        |        |        |       | .606   |        |        |
|                                 |              | Q44              |                 |        |        |        |       | .521   |        |        |
| Continuous improvement          | 4            | Q54              |                 |        |        |        |       |        | .779   |        |
|                                 |              | Q52              |                 |        |        |        |       |        | .746   |        |
|                                 |              | Q50              |                 |        |        |        |       |        | .642   |        |
|                                 |              | Q51              |                 |        |        |        |       |        | .513   |        |
| Reward and Recognition          | 4            | Q36              |                 |        |        |        |       |        |        | .746   |
|                                 |              | Q35              |                 |        |        |        |       |        |        | .744   |
|                                 |              | Q34              |                 |        |        |        |       |        |        | .643   |
|                                 |              | Q37              |                 |        |        |        |       |        |        | .587   |
| <b>Eigenvalue</b>               |              |                  | 9.636           | 4.263  | 4.126  | 2.290  | 1.763 | 1.722  | 1.262  | 1.119  |
| <b>% of Variance</b>            |              |                  | 24.708          | 10.930 | 10.580 | 5.872  | 4.521 | 4.415  | 3.236  | 2.870  |
| <b>% Cumulative</b>             |              |                  | 24.708          | 35.638 | 46.218 | 52.090 | 56.61 | 61.026 | 64.262 | 67.132 |

Table 6.4 shows that all of the items had factor loadings that were greater than 0.40, more than the cut-off point of 0.30 based on the guidelines of Hair et al. (1998): these values ranged from .416 to .839. Furthermore, the results revealed that eigenvalues were much greater than one. The table also show the total variance explained that amounted to 67.132% of variance derived from the by the eight dimensions.

Factor analysis identified eight out of ten factors for TQM implementation in the Libyan banks as shown in table 6.4. These factors were ranked as follows: the first factor was customer focus and satisfaction. It had five items loading that ranged from 0.566 to 0.839, and it was the most important factor, having the largest proportion of the total variance, explaining 24.708 % of total variance with an eigenvalue of (9.636), which was greater than one. The second factor was top management commitment. It had five items loading that ranged from 0.490 to 0.827, and explained 10.930 % of total variance, with an eigenvalue of (4.263). The third factor was employee training. It had four items loading that ranged from 0.488 to 0.820, and explained 10.580 % of total variance, with an eigenvalue of (4.126). The fourth factor was quality policy. It had four items loading that ranged from 0.454 to 0.759, and contributed 5.872 % of total variance with an eigenvalue of (2.290).

The fifth factor was employee involvement. It had four items loading that ranged from 0.416 to 0.771, and explained 4.521 % of total variance with an eigenvalue of (1.763). The sixth factor was benchmarking. It had four items loading that ranged from 0.521 to 0.705, and explained 4.415 % of total variance with an eigenvalue of (1.722). The seventh factor was continuous improvement. It had also four items loading that ranged from 0.513 to 0.779, and added 3.236 % of total variance with an eigenvalue of (1.262). The final factor was reward and recognition. It had four items loading that ranged from 0.587 to 0.746, and contributed 4.521 % of total variance with an eigenvalue of (1.119), which was greater than one.

#### 6.4 Reliability of Results Analysis

As noted in Section 5.8.1, the most popular method for testing the reliability of an instrument is the internal consistency method, particularly for the measurement of instruments with multiple-element dimensions (Bryman and Cramer, 2001). Internal consistency was measured using Cronbach's alpha, the most widely applied method. Cronbach's alpha is used to calculate the mean value of correlation coefficients between all possible split-half combinations. It examines the degree to which the measuring items are independent measures of the same concept where they are correlated with one another. It is an adequate index of internal consistency reliability (Sekaran, 2003). Cronbach's alpha values range from zero to one. Hair et al. (1998, p. 118), note that a Cronbach's alpha score of 0.60 is considered to be the lower limit for a test of data reliability. Sekaran (2003) argues that alpha coefficient scores of less than 0.60 are considered to be poor. In this study, the Cronbach's alphas for all variables (dependent and independent) were above the acceptable level of 0.60. The reliability coefficient ranged from 0.714 to 0.881, which was significantly higher than the acceptable level of reliability. The table below shows the independent and dependent variables of Cronbach's alpha results.

**Table 6.5 Cronbach's alpha results for independent and dependent variables**

| No | Factors                         | No. of items | Cronbach's Alpha |
|----|---------------------------------|--------------|------------------|
| 1  | Customer focus and satisfaction | 5            | 0.881            |
| 2  | Top management Commitment       | 5            | 0.824            |
| 3  | Employee Training               | 4            | 0.795            |
| 4  | Quality policy                  | 4            | 0.714            |
| 5  | Employee involvement            | 4            | 0.767            |
| 6  | Benchmarking                    | 4            | 0.850            |
| 7  | Continuous improvement          | 4            | 0.862            |
| 8  | Reward and Recognition          | 4            | 0.853            |
| 9  | Developmental culture           | 4            | 0.743            |
| 10 | Hierarchical culture            | 4            | 0.832            |
| 11 | Group culture                   | 4            | 0.822            |
| 12 | Rational culture                | 4            | 0.818            |

Table 6.5 shows that the reliability coefficients of variables were above 0.70, which is still acceptable (Sekaran, 2003; Hair et al., 1998). Those figures indicate that the scales developed were reliable. Consequently, the measuring instrument and the construct developed specifically for research purposes were reliable and had considerable internal consistency and reliability. The reliability values indicate that the components of each construct or variable are all related to the overall construct of the variable and to the overall construct within the domain of each category in which the variable exists.

### 6.5 First objective: to determine the level of TQM implementation in the Libyan banks

To achieve the first objective, factor analysis identified eight factors of TQM implementation in the Libyan banks. The factors of TQM included in this study were: top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, reward and recognitions, benchmarking and continuous improvement. Table 6.6 summarises the Pearson correlation among these 10 TQM factors as dependent variables:

**Table 6.6 Correlations for TQM factors**

| <b>Factors</b>                       | <b>TMC</b>     | <b>CFS</b>     | <b>QP</b>      | <b>ET</b>      | <b>EI</b>      | <b>RR</b>      | <b>B</b>       | <b>CI</b> |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------|
| Top management commitment(TMC)       | 1.000          |                |                |                |                |                |                |           |
| Customer focus and satisfaction(CFS) | .937**<br>.000 | 1.000          |                |                |                |                |                |           |
| Quality policy (QP)                  | .935**<br>.000 | .843**<br>.000 | 1.000          |                |                |                |                |           |
| Employee training(ET)                | .936**<br>.000 | .868**<br>.000 | .900**<br>.000 | 1.000          |                |                |                |           |
| Employee involvement(EI)             | .968**<br>.000 | .894**<br>.000 | .958**<br>.000 | .889**<br>.000 | 1.000          |                |                |           |
| Reward and recognition(RR)           | .885**<br>.000 | .871**<br>.000 | .774**<br>.000 | .811**<br>.000 | .820**<br>.000 | 1.000          |                |           |
| Benchmarking(B)                      | .940**<br>.000 | .984**<br>.000 | .848**<br>.000 | .900**<br>.000 | .870**<br>.000 | .886**<br>.000 | 1.000          |           |
| Continuous improvement(CI)           | .899**<br>.000 | .885**<br>.000 | .788**<br>.000 | .824**<br>.000 | .833**<br>.000 | .986**<br>.000 | .900**<br>.000 | 1.000     |

\*\*Correlation is significant at the 0.01 level (2-tailed)

Table 6.6 shows that all correlations were highly positive and statistically significant. The table also shows that the highest correlation of 0.986 was for the correlation between reward and recognition, and continuous improvement, while the lowest correlation, 0.774, was for the correlation between quality policy, and reward and recognition. Pearson's correlation matrix shows that there is a very high positive correlation between TQM factors. The Pearson correlation coefficient is statistically significant at the .01 level. The level of implementation of TQM was measured by a group of questions built on a five-point Likert scale (1=Strongly disagree, 2=Disagree, 3=Neither Agree nor Disagree, 4= Agree, 5=Strongly Agree). The respondents were asked to answer to what extent they agreed or disagreed with the given statements. The extension is determined by  $5-1=4$ . In order to identify the length of each scale (statement)  $4/5 = 0.80$  is computed (Diamond and Jefferies, 2001). The upper limit for each cell is then determined by adding 0.80 to the code of Strongly Agree, Agree, Neither Agree nor Disagree, Disagree and Strongly Disagree. The following table shows the range of each scale:

**Table 6.7 Summary of the range of scales**

| <b>Points</b> | <b>Level of implementation</b> | <b>Scale range</b> |
|---------------|--------------------------------|--------------------|
| 1             | Very low                       | From 1 to 1.80     |
| 2             | Low                            | 1.81 to 2.60       |
| 3             | Medium                         | 2.61 to 3.40       |
| 4             | High                           | 3.41 to 4.20       |
| 5             | Very high                      | 4.21 to 5          |

Source: Designed by the researcher

In addition, to achieve the first objective, the Wilcoxon test was used to examine the following hypotheses for measuring the level of TQM implementation in Libyan banks:

**1. TQM implementation is very low when:**

*H<sub>0</sub>*: The level of TQM implementation is very low in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is higher than very low in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 1.80**

**H<sub>1</sub>: median > 1.80**

**2. TQM implementation is low when:**

*H<sub>0</sub>*: The level of TQM implementation is low in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is higher than low in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 2.6**

**H<sub>1</sub>: median > 2.6**

**3. TQM implementation is medium when:**

*H<sub>0</sub>*: The level of TQM implementation is medium in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is higher than medium in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 3.40**

**H<sub>1</sub>: median > 3.40**

**4. TQM implementation is high when:**

*H<sub>0</sub>*: The level of TQM implementation is high in the Libyan banks

*H<sub>1</sub>*: The level of TQM implementation is very high in the Libyan banks

When,            **H<sub>0</sub>: median ≤ 4.20**

**H<sub>1</sub>: median > 4.20**

Table 6.8 shows descriptive statistics and the Wilcoxon test used to identify the level of TQM implementation in Libyan banks:

**Table 6.8 TQM implementation level in Libya banks**

| TQM Factors                            | Descriptive statistics of TQM factors |       | Very low implementation<br>H <sub>0</sub> : median ≤1.80 |         | low implementation<br>H <sub>0</sub> : median ≤2.6 |         |
|--|---------------------------------------|-------|--|---------|--|---------|
|  | Mean                                  | SD    | Wilcoxon   | p-value | Wilcoxon   | p-value |
| <b>Top management Commitment</b>       | 2.523                                 | .8004 | 84291  | .000    | 34088  | .976    |
| <b>Customer focus and satisfaction</b> | 2.557                                 | .8953 | 83325  | .000    | 39033  | .886    |
| <b>Quality policy</b>                  | 2.444                                 | .8026 | 89536  | .000    | 43167  | .999    |
| <b>Employee training</b>               | 2.530                                 | .8277 | 91975  | .000    | 49326  | .818    |
| <b>Employee involvement</b>            | 2.499                                 | .7998 | 91486  | .000    | 47297  | .948    |
| <b>Reward and recognition</b>          | 2.550                                 | .9154 | 89667  | .000    | 51367  | .571    |
| <b>Benchmarking</b>                    | 2.531                                 | .9045 | 90114  | .000    | 49659  | .785    |
| <b>Continuous improvement</b>          | 2.548                                 | .9307 | 89029  | .000    | 51034  | .617    |
| <b>Total</b>                           | 2.545                                 | .8047 | 90234  | .000    | 47249  | .946    |

Descriptive statistics reveal that the level of TQM implementation in Libyan banks was low. The distribution of the mean scores for these indicators and for eight factors is divided into five bands: very high (score of 4.21 to 5), high (score of 3.41 to 4.20), medium (2.61 to 3.4), low (1.81 to 2.6), and very low (1 to 1.8), derived from the measurement instrument scales.

In addition, this table illustrates the low level of implementation of top management commitment in Libyan banking. The mean of all items for Top Management Commitment was 2.523, which was in the range 1.81 to 2.6, indicating a low level of implementation. In addition, Customer Focus and Satisfaction had a mean of (2.557) while Quality policy (2.444), Employee Training (2.530), Employee Involvement (2.499), Reward and recognition (2.550), Benchmarking (2.531)

and Continuous Improvement (2.548) all had means in the low range. The overall mean of 2.545 shows that TQM was implemented in Libyan banking at a low level.

These results were confirmed using the Wilcoxon test. For top management commitment,  $H_1$  ( $H_1: \text{median} > 1.80$ ) is accepted since its  $p\text{-value} = .000$ , which means that the level of TQM implementation is higher than very low. For testing whether the level of TQM implementation is low, the table 6.5 shows the ( $p\text{-value} = 0.976$ ) is not significant at the .05 level, which indicates that the level of top management commitment is low in the Libyan banking sector. Namely,  $H_0: \text{median} \leq 2.6$  is therefore accepted, meaning that TQM implementation is low, and  $H_1$  ( $H_1: \text{median} > 2.6$ ) is rejected, which shows that the level of TQM implementation is not higher than low.

In the same vein, table 6.8 also shows that  $H_0: \text{median} \leq 2.6$  is therefore accepted for all TQM factors, meaning that TQM implementation was low for all TQM factors, including; customer focus and satisfaction ( $p\text{-value} = 0.886$ ), quality policy ( $p\text{-value} = .999$ ), employee training ( $p\text{-value} = 0.818$ ), employee involvement ( $p\text{-value} = 0.948$ ), reward and recognition ( $p\text{-value} = 0.571$ ), benchmarking ( $p\text{-value} = 0.785$ ), and continuous improvement ( $p\text{-value} = 0.617$ ), which were not significant at the .05 level.  $H_1$  ( $H_1: \text{median} > 2.6$ ) is therefore rejected, which shows that the level of TQM implementation was not higher than low.

The overall conclusion is that the level of TQM implementation factors in the Libyan banks was low, which was proven through the findings from the questionnaire. This low level of TQM implementation may have been due to the weakness of organisational culture, or to the barriers or other constraints present in the Libyan environment. The following sections will explore the impact of organisational culture on the implementation of TQM in Libyan banks.



## **6.6 Second objective: To explore the influence of organisational culture types on TQM implementation factors**

Multiple regression was used to test the hypotheses of the second and third objectives, which aim to explore the influence of organisational culture types (Developmental, Hierarchical, Group, and Rational Culture) as independent variables on TQM implementation factors as dependent variables.

Hair et al. (1998, p. 148) defined multiple regression analysis as “a statistical technique that can be used to analyse the relationship between a single dependent (criterion) variable and several independent (predictor) variables.” When using multiple regression it must be possible to divide the variables into dependent and independent variables. Regression analysis is also a statistical tool that should be used only when both the dependent and independent variables comprise metric data. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the single dependent value selected by the researcher. Each independent variable is weighted by the regression analysis procedure to ensure maximum prediction from the set of independent variables. The weights denote the relative contribution of the independent variables to the overall prediction and facilitate interpretation of the influence of each variable in making the prediction. However, correlation among the independent variables complicates the interpretative process. The set of weighted independent variables forms the regression variate, a linear combination of the independent variables that best predicts the dependent variable.

To evaluate the results of a multiple regression analysis, the following statistical criteria must be considered (Hair et al., 1998):

1. Assess the statistical significance of the overall regression model using the F statistic. As a rule of thumb, P values of < 0.05 are considered significant.
2. If the model statistic is significant, the next step is to evaluate the strength of the relationship between the dependent and independent variables using the multiple  $R^2$  statistics. The  $R^2$  figure represents the amount of variation in the independent variable associated with all of the independent variables considered together. Multiple  $R^2$  ranges from 0 to +1.0.
3. A multiple regression provides a coefficient (beta) for each independent variable that indicates the size of the influence and the direction (positive/negative) of the independent variable upon the dependent variable. A higher beta value indicates that the variable has a greater influence on the dependent variable.
4. The beta coefficient(s) must be significant. The final step is therefore to examine the statistical significance of regression coefficients (betas) for each of the independent variables using the t statistics. If any of the beta coefficients are not statistically significant, this indicates that the variable is not a good predictor of the dependent variable. As a rule of thumb, P values of < 0.05 are considered to be significant. The beta weights signify the relative contributions of each factor in the model. The regression model can be expressed using the following equation:

$$Y = A + B1X1 + B2X2 + B3X3 + \dots + e$$

*Where:*

Y: value of the dependent variable (TQM implementation factors).

X1, X2, Xn: value of the independent variables.

A: intercept (constant).

B: regression coefficient.

e: prediction error

Hair et al. (1998) and Mertler and Vannatta (2005), note that multicollinearity should be addressed prior to the execution of regression analysis. Multicollinearity is a problem that arises when moderate to high intercorrelation among independent variables to be used in a regression analysis exists. The underlying problem of multicollinearity is that if two variables are highly correlated, they essentially contain the same information and therefore measure the same thing.

Hair et al. (1998) argues that one of methods recommended for assessing multicollinearity is the Variance Inflation Factor (VIF), which measures the degree to which each independent variable is explained by the other independent variables. It is also recommended that the multicollinearity acceptable at the level of 10. A second test for multicollinearity is the tolerance statistical value that can be obtained for each independent variable.

In addition, the backward elimination method was used in this study to find the best regression model to examine the general hypothesis regarding the influence of independent on dependent variables. The backward elimination method of selecting variables for inclusion in the case of a regression model starts by including all independent variables in the model and then eliminating those variables that do not make a significant contribution to prediction. The procedure of backward elimination is largely a trial-and-error process for finding the best regression estimates. This procedure is then repeated until only useful predictor variables remain in the model.

The ANOVA table presented the  $F$ -test and corresponding level of significance for each step generated, reporting the degree to which the relationship between the dependent variable and independent variables was linear. A significant  $F$ -test is indicative of a linear relationship between the independent and dependent variables and is hence a significant prediction of the dependent variable.

To apply multiple regression to test this hypothesis on the influence of organisational culture types (developmental culture, hierarchical culture, group culture, and rational culture) as independent variables on TQM implementation factors as dependent variables. Pearson's correlation coefficients between organisational culture types and TQM implementation factors were calculated, as shown in Table 6.9, as a first step towards the multiple regression analysis:

**Table 6.9 Correlation results of organisational culture types and TQM factors**

| Factors               | TMC            | CFS            | QP             | ET             | EI             | RR             | B              | CI             |
|-----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Developmental Culture | .559*<br>.000  | .375**<br>.000 | .596**<br>.000 | .589**<br>.000 | .623**<br>.000 | .319**<br>.000 | .366**<br>.000 | .324**<br>.000 |
| Hierarchical Culture  | .453**<br>.000 | .380**<br>.000 | .443**<br>.000 | .442**<br>.000 | .453**<br>.000 | .392**<br>.000 | .383**<br>.000 | .395**<br>.000 |
| Group Culture         | .580**<br>.000 | .513**<br>.000 | .569**<br>.000 | .578**<br>.000 | .572**<br>.000 | .534**<br>.000 | .519**<br>.000 | .540**<br>.000 |
| Rational Culture      | .455**<br>.000 | .392**<br>.000 | .474**<br>.000 | .472**<br>.000 | .473**<br>.000 | .318**<br>.000 | .387**<br>.000 | .329**<br>.000 |

\*\*Correlation is significant at the 0.01 level (2-tailed)

Table 6.9 shows that there was a positive and statistically significant correlation between organisational culture types and TQM implementation factors. The coefficient of correlation was significant at the 0.01 level.

The second objective of this study is to explore the influence of organisational culture types on TQM implementation. Therefore, hypotheses were formulated based on the literature review and previous research. The main hypothesis was formulated thus:

***H<sub>0</sub>: Organisational culture types have no a positive influence on TQM factors***

***H<sub>1</sub>: Organisational culture types have a positive influence on TQM factors***

The following sub-hypotheses were derived through the main hypothesis, to explore the influence the four types of organisational culture on TQM implementation factors:

***H<sub>1a</sub>***: Developmental Culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, reward and recognition, benchmarking, and continuous improvement).

***H<sub>1b</sub>***: Hierarchical culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, reward and recognition, benchmarking, and continuous improvement).

*H<sub>1c</sub>*: Group culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, reward and recognition, benchmarking, and continuous improvement).

*H<sub>1d</sub>*: Rational culture has a positive influence on TQM factors (top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, reward and recognition, benchmarking, and continuous improvement)

Multiple regression was used to test these hypotheses, and then to find the influence of organisational culture types (developmental culture, hierarchical culture, group culture, and rational culture) on all TQM implementation factors. The backward elimination method was therefore used to find the best model of regression to examine the general hypothesis concerning the influence of independent (developmental culture, hierarchical culture, group culture, and rational culture) on dependent variables (TQM implementation factors). The backward elimination procedure starts with a regression equation including all the independent variables, and then deletes independent variables that do not make a significant contribution to prediction variables. This procedure was repeated until only useful independent variables that contributed significantly to the final Model remained. The final regression Model in Table 6.10 shows that two independent variables (developmental culture and group culture) had a significant contribution (p-values=.000) to the model. Furthermore, two independent variables (hierarchical culture and rational culture) did not make a significant contribution to the model. The Variance Inflation Factor (VIF) value was 1.436, which was below 10 (see Appendix D). There was therefore no multicollinearity problem needing correction in the model with independent variables (Hair et al., 1998; Kleinbaum et al., 2007).

**Table 6.10 Coefficient results for TQM implementation factors  
Coefficient (a)**

| Dependent Variables<br>TQM Implementation<br>Factors | Independent Variables :Organisational Culture Types |               |        |             |                       |            |             | Model<br>Summary |                        |
|--|---|---------------|--------|-------------|-----------------------|------------|-------------|------------------|------------------------|
|  | Model   | Group culture |        |             | Developmental culture |            |             | R <sup>2</sup>   | Adj-<br>R <sup>2</sup> |
|  |   | Beta          | t      | p-<br>value | Beta                  | t          | p-<br>value |                  |                        |
| Top management<br>commitment                         | 3   | .407          | 9.549  | .000        | .334                  | 7.832      | .000        | .427             | .425                   |
| customer focus and<br>satisfaction                   | 3   | .445          | 9.285  | .000        | .129                  | 2.702      | .000        | .278             | .275                   |
| Quality Policy                                       | 3   | .370          | 8.853  | .000        | .393                  | 9.397      | .000        | .451             | .448                   |
| Employee Training                                    | 3   | .381          | 9.059  | .000        | .380                  | 10.50<br>6 | .000        | .447             | .445                   |
| Employee involvement                                 | 3   | .352          | 8.601  | .000        | .429                  | 8.444      | .000        | .474             | .472                   |
| Reward and Recognition                               | 4   | .539          | 13.628 | .000        | -                     | -          | -           | .291             | .289                   |
| Benchmarking   | 3   | .459          | 9.597  | .000        | .113                  | 2.361      | .000        | .280             | .227                   |
| Continuous improvement                               | 4   | .545          | 13.839 | .000        | -                     | -          | -           | .297             | .296                   |

The final regression Model in Table 6.10 shows that group culture and developmental culture had a positive influence on all TQM implementation factors at the .001 level (p=.000), which indicates that their contribution to the model was significant after the hierarchical culture and rational culture variables were eliminated, as they were not statistically significant in the model.

Table 6.10 shows the results of the final regression Model for all the TQM implementation factors. These results were:

**1. The impact of organisational culture types on top management commitment**

The final regression Model (3) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2 = 0.427$ , signifying that 42.7% of the variation in top management commitment can be explained by the variation in group and developmental culture. Moreover, Table 6.10 shows that there was a statistical significance at the 0.001 level (p=.000), meaning that group and developmental culture had a large influence on top management commitment after the variables hierarchical culture and rational culture, which

were not statistically significant in the model, were eliminated. In addition, the table shows that group culture had the largest impact on top management commitment based on the size of its standardised coefficients (Beta=0.407), which were larger than those of developmental culture (beta= 0.334). Hence, it is concluded that  $H_{1a}$ , and  $H_{1c}$  are accepted, indicating that group culture and developmental culture had a positive influence on top management commitment, and  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that hierarchical culture and rational culture did not have any influence on top management commitment.

## **2. The impact of organisational culture types on customer focus and satisfaction**

The final regression Model (3) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2 = 0.278$ , signifying that 27.8% of the variation in customer focus and satisfaction can be explained by the variation in group and developmental culture. The table also shows that there was a statistical significance at the 0.001 level ( $p=.000$ ). Group and developmental culture therefore had a substantial influence on customer focus and satisfaction after the variables hierarchical culture and rational culture, which were not statistically significant in the model, were eliminated. In addition, the table shows that group culture had the largest impact on customer focus and satisfaction based on the size of its standardised coefficients (beta=0.445), which was larger than that of developmental culture, (with beta= 0.129). Hence, it is concluded that  $H_{1a}$ , and  $H_{1c}$  are accepted, indicating that group culture and developmental culture had a positive influence on customer focus and satisfaction, and  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that hierarchical culture and rational culture did not have any influence on customer focus and satisfaction.

## **3. The impact of organisational culture types on quality policy**

The final regression Model (3) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2= 0.451$ , signifying that 45.1 % of the variation in quality policy can be explained by the variation in group and developmental culture. The table also shows that there was a statistical significance at the 0.001 level ( $p=.000$ ). Group and developmental culture therefore had a substantial influence on quality policy after the variables hierarchical culture and rational culture, which were not statistically significant in the model, were eliminated. In addition, the table shows that developmental culture had the largest impact on quality policy based on the size of its standardised coefficients (beta=0.393), which was

larger than that of group culture, with  $\beta = 0.370$ . Hence, it is concluded that  $H_{1a}$ , and  $H_{1c}$  are accepted, indicating that group culture and developmental culture had a positive influence on quality policy, and  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that hierarchical culture and rational culture did not have any influence on quality policy.

#### **4. The impact of organisational culture types on employee training**

The final regression Model (3) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2 = 0.447$ , signifying that 44.7 % of the variation in employee training can be explained by the variation in group and developmental culture. Group and developmental culture therefore had a substantial influence on employee training after the variables hierarchical culture and rational culture which were not statistically significant in the model, were eliminated. In addition, the table shows that group culture had the largest impact on employee training based on the size of its standardised coefficients ( $\beta = 0.381$ ), which was larger than that of developmental culture, with  $\beta = 0.380$ . Hence, it is concluded that  $H_{1a}$ , and  $H_{1c}$  are accepted, indicating that group culture and developmental culture had a positive influence on employee training, and  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that hierarchical culture and rational culture did not have any influence on employee training.

#### **5. The impact of organisational culture types on employee involvement**

The final regression Model (3) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2 = 0.474$ , signifying that 47.4 % of the variation in employee involvement can be explained by the variation in group and developmental culture. The table also shows that there was a statistical significance at the 0.001 level ( $p = .000$ ). Group and developmental culture therefore had an influence on employee involvement after the variables hierarchical culture and rational culture which were not statistically significant in the model, were eliminated. In addition, the table shows that developmental culture had the largest impact on employee involvement based on the size of its standardised coefficients ( $\beta = 0.429$ ), which was larger than that of group culture, with  $\beta = 0.352$ . Hence, it is concluded that  $H_{1a}$ , and  $H_{1c}$  are accepted, indicating that group culture and developmental culture had a positive influence on employee involvement, and  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that hierarchical culture and rational culture did not have any influence on employee involvement.



## **6. The impact of organisational culture types on reward and recognition**

The final regression Model (4) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2 = 0.291$ , signifying that 29.1 % of the variation in reward and recognition can be explained by the variation in group culture only. The table also shows that there was a statistical significance at the 0.001 level ( $p = .000$ ). Group culture therefore had a large influence on reward and recognition after the variables developmental culture, hierarchical culture, and rational culture which were not statistically significant in the model, were eliminated. In addition, the table shows that group culture had the impact on reward and recognition based on the size of its standardised coefficients ( $\beta = 0.539$ ). Hence, it is concluded that  $H_{1c}$  is accepted, indicating that group culture had a positive influence on reward and recognition, and  $H_{1a}$ ,  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that developmental culture, hierarchical culture and rational culture did not have any influence on reward and recognition.

## **7. The impact of organisational culture types on benchmarking**

The final regression Model (3) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2 = 0.280$  signifying that 28.0 % of the variation in benchmarking can be explained by the variation in group and developmental culture. The table also shows that there was a statistical significance at the 0.001 level ( $p = .000$ ). Group and developmental culture therefore had an influence on benchmarking after the variables hierarchical culture and rational culture which were not statistically significant in the model, were eliminated. In addition, the table shows that group culture had the largest impact on benchmarking based on the size of its standardised coefficients ( $\beta = 0.459$ ), which was larger than that of developmental culture, with  $\beta = 0.113$ . Hence, it is concluded that  $H_{1a}$  and  $H_{1c}$  are accepted, indicating that group culture and developmental culture had a positive influence on benchmarking, while  $H_{1b}$  and  $H_{1d}$  are rejected, meaning that hierarchical culture and rational culture did not have any influence on benchmarking.

## **8. The impact of organisational culture types on continuous improvement:**

The final regression Model (4) in Table 6.10 shows that the value of multiple coefficient of determination was  $R^2 = 0.297$  signifying that 29.7 % of the variation in continuous

improvement can be explained by the variation in group culture only. The table also shows that there was a statistical significance at the 0.001 level ( $p=.000$ ). Group culture therefore had a large influence on continuous improvement after the variables developmental culture, hierarchical culture, and rational culture which were not statistically significant in the model, were eliminated. In addition, the table shows that group culture had the impact on continuous improvement based on the size of its standardised coefficients ( $\beta=0.545$ ). Hence, it is concluded that  $H_{1c}$  is accepted, indicating that group culture had a positive influence on continuous improvement, while  $H_{1a}$ ,  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that developmental culture, hierarchical culture and rational culture did not have any influence on continuous improvement.

The ANOVA table (6.11) shows the values of F-statistical for eight factors of TQM implementation, which was statistically significant at the .001 level ( $p=0.000$ ), showing that group and developmental culture had an influence on all TQM implementation factors, as shown in the table,

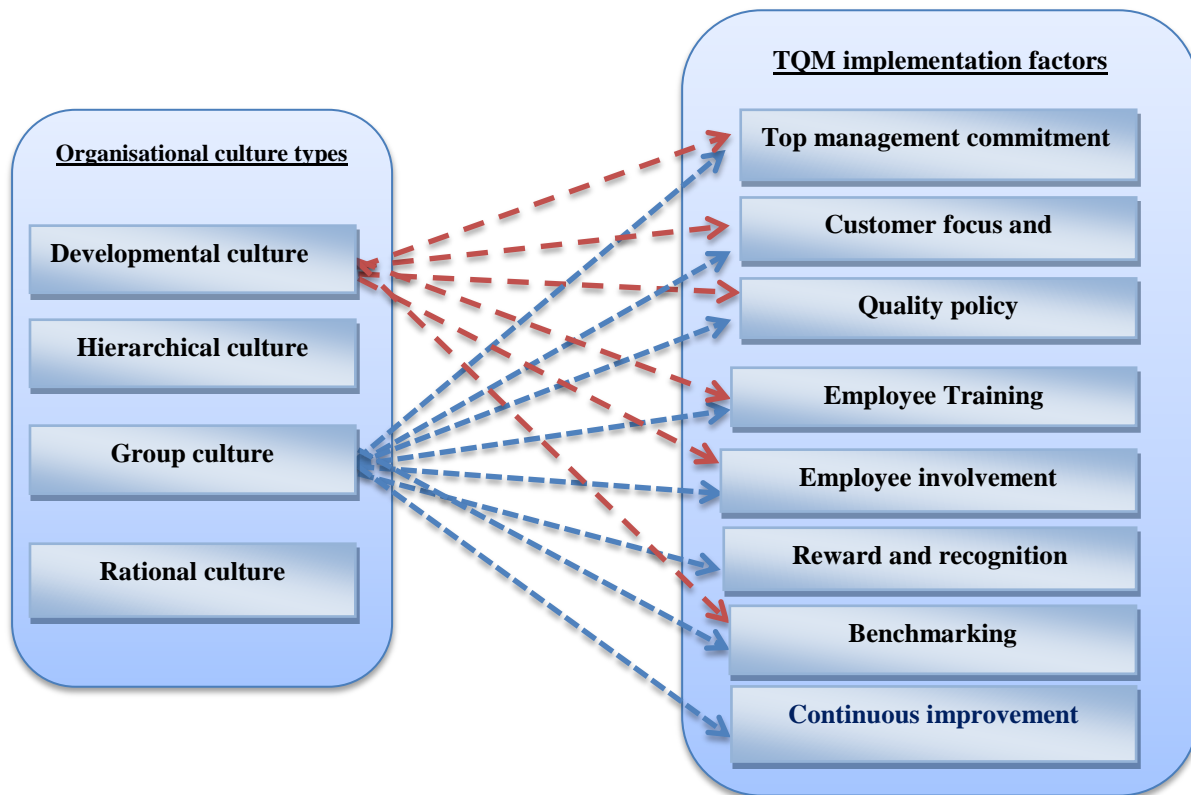
**Table 6.11 TQM implementation factors ANOVA result**

| Dependent Variables TQM Factors | F       | Sig   |
|---------------------------------|---------|-------|
| Top management commitment       | 168.747 | .000c |
| Customer focus and satisfaction | 87.021  | .000c |
| Quality policy                  | 165.451 | .000c |
| Employee Training               | 182.882 | .000c |
| Employee involvement            | 203.938 | .000c |
| Reward and recognition          | 185.717 | .000d |
| Benchmarking                    | 88.086  | .000c |
| Continuous improvement          | 191.532 | .000d |

a.Predictor (constant), group culture and development culture  
b.Dependent variable: TQM implementation factors

Multiple regression analysis clearly shows that group culture had a positive influence on all TQM implementation factors, and developmental culture had a positive influence on only six factors of TQM implementation (top management commitment, customer focus and satisfaction, quality

policy, employee training, employee involvement, and benchmarking) with a regression coefficient that was statistically significant for all these factors at the .001 level. In addition, hierarchical culture and rational culture did not have any influence on all TQM implementation factors in the model, and they were not statistically significant in the regression model. A summary of the results of multiple regression analysis are shown in the following figure 6.1:



**Figure 6.1 The effect of organisational culture types on TQM implementation**

Figure 6.1 shows the result of multiple regression analysis on the effect of organisational culture on TQM implementation in the Libyan banks. This figure shows that two organisational culture types (developmental and group culture) had a significant effect on TQM implementation in general, but group culture had a significant effect on all TQM factors, and developmental culture had a significant effect on only six TQM factors. Moreover, there were no significant effects on

reward and recognition, and continuous improvement. The figure also shows that hierarchical culture and rational culture did not have a significant effect on TQM implementation factors in the Libyan banks.

### **6.7 Differences concerning organisational culture types among respondents between branches of each bank**

The Kruskal-Wallis test was used to test whether there were any differences in organisational culture types among the respondents from the three banks that were surveyed. The Kruskal-Wallis (H) test requires the sample variable to contain more than two independent groups; it is used to compare three or more groups of sample data. This non-parametric test makes no assumptions about the distribution of the data (for example normality). It is a statistical test used to determine if there is significant difference between three or more samples. Kruskal-Wallis was used in this research to investigate any differences in the organisational culture types in the three banks surveyed.

Kruskal-Wallis H in this research used the confidence level set at 95%; therefore  $\alpha = 0.05$ . If the result is non-significant ( $p > 0.05$ ), this means that there is no significant difference between the groups of respondents. If, however, the test is significant ( $p < 0.05$ ), there is a significant difference between the groups of respondents. Additionally, the test uses the ranks of the data for the groups: a chi-square with  $(k - 1)$  degrees of freedom, where  $k$  refers to the number of banks and  $DF$  the degree of freedom. In this research,  $DF = 3 - 1 = 2$ .

If the critical value of chi-square for the desired significance level (typically .05) is less than the computed H value, the null hypothesis that the samples do not differ on the criterion variable is

rejected. To calculate this, the SPSS program outputs the corresponding significance value directly. A finding of H significance means there is a rank difference between groups.

On this basis, this research examined whether there were any differences in organisational culture types among the respondents between the branches of each bank:

### 6.7.1 Kruskal-Wallis Test (Branches of bank A)

The test examined significant differences between respondents in branches of bank (A) for the type of the organisational culture; a set of hypotheses were formulated as follows:

*H<sub>0</sub>: There are no significant differences among respondents between branches of bank (A).*

*H<sub>1</sub>: There are significant differences among respondents between branches of bank (A).*

The findings are shown in the tables below:

**Table 6.12 Kruskal-Wallis (Branches of bank A)**

| Branches of bank A | Developmental culture | Hierarchical culture | Group culture | Rational culture |
|--------------------|-----------------------|----------------------|---------------|------------------|
| <b>Chi-square</b>  | .608                  | .660                 | 3.075         | .993             |
| <b>Df</b>          | 2                     | 2                    | 2             | 2                |
| <b>Asymp.Sig</b>   | .738                  | .719                 | .215          | .609             |

a. Kruskal Wallis Test

b. Grouping Variable: Cities

As can be seen in the above table, there was no a statistically significant difference among respondents between branches in bank (A) in terms of the four types of organisational culture (developmental culture, Hierarchical culture, group culture, and rational culture). The results indicated that there were no significant differences in the four types of organisational culture in the responses between the bank's branches (P-value > 0.05). Therefore, these results support the acceptance of, *H<sub>0</sub>* (there are no significant differences among respondents between branches of

bank A), and the rejection of  $H_1$  (there are significant differences among respondents between branches of bank A).

### 6.7.2 Kruskal-Wallis Test (Branches of bank B)

The test examined significant differences between respondents in branches of bank (B) for the type of the organisational culture, a set of hypotheses were formulated as follows:

$H_0$ : There are no significant differences among respondents between branches of bank (B).

$H_1$ : There are significant differences among respondents between branches of bank (B).

The findings are shown in the tables below:

**Table 6.13 Kruskal-Wallis (Branches of bank B)**

| Branches of bank B | Developmental culture | Hierarchical culture | Group culture | Rational culture |
|--------------------|-----------------------|----------------------|---------------|------------------|
| <b>Chi-square</b>  | 3.507                 | 4.901                | 1.360         | 2.512            |
| <b>df</b>          | 2                     | 2                    | 2             | 2                |
| <b>Asymp.Sig</b>   | .173                  | .086                 | .507          | .285             |

a. Kruskal Wallis Test  
b. Grouping Variable: Cities

Table 6.13 shows that there was no statistically significant difference among respondents between branches in bank (B) in terms of the four types of organisational culture (developmental culture, Hierarchical culture, group culture, and rational culture). The results indicated that there were no significant differences in the four types of organisational culture in the responses between the bank's branches (P-value > 0.05). Therefore, these results support the acceptance of,  $H_0$  (there are no significant differences among respondents between branches in bank B), and the rejection of  $H_1$  (there are significant differences among respondents between branches in bank B).

### 6.7.2 Kruskal-Wallis Test (Branches of bank C)

The test examined significant differences between respondents in branches of bank (C) for the type of the organisational culture; a set of hypotheses were formulated as follows:

*H<sub>0</sub>*: There are no significant differences among respondents between branches of bank (C).

*H<sub>1</sub>*: There are significant differences among respondents between branches of bank (C).

The findings are shown in the tables below:

**Table 6.14 Kruskal-Wallis (Branches of bank C)**

| Branches of bank C | Developmental culture | Hierarchical culture | Group culture | Rational culture |
|--------------------|-----------------------|----------------------|---------------|------------------|
| <b>Chi-square</b>  | 3.334                 | 4.611                | 1.653         | 5.924            |
| <b>df</b>          | 2                     | 2                    | 2             | 2                |
| <b>Asymp.Sig</b>   | .189                  | .100                 | .438          | .520             |

a. Kruskal Wallis Test

b. Grouping Variable: Cities

Table 6.14 shows that there was no statistically significant difference among respondents between branches of bank (C) in terms of the four types of organisational culture (developmental culture, Hierarchical culture, group culture, and rational culture). The results indicated that there were no significant differences in the four types of organisational culture in terms of the responses between the bank's branches (P-value > 0.05). Therefore, these results support the acceptance of *H<sub>0</sub>* (there are no significant differences among respondents between branches of bank C), and the rejection of *H<sub>1</sub>* (there are significant differences among respondents between branches of bank C).

Overall, Kruskal-Wallis test was used to examine whether there were any differences in organisational culture types among the respondents between the branches of the three banks,

indicating no significant differences in the four types of organisational culture between the respondents from the branches of three banks. No differences were found in their views on “types of organisational culture” in their banks. Consequently, there was general agreement between these groups on the types of organisational culture, making it possible to merge the three banks. No comparisons need to be made between them; instead, they can be used as a single group.

### **6.8 Differences concerning organisational culture types among respondents from three banks**

The Kruskal-Wallis test was also used to test whether there were any differences in organisational culture types among the respondents between the three banks. A set of hypotheses were formulated as follows:

*H<sub>0</sub>: There are no significant differences between respondents in three banks.*

*H<sub>1</sub>: There are significant differences between respondents in the three banks.*

The findings are shown in the tables below:

#### **6.8.1 Kruskal-Wallis Test (Developmental culture)**

The test examined significant differences between respondents in three banks for the first type of the organisational culture (developmental culture), as shown in the table below:

**Table 6.15 Kruskal-Wallis (Developmental culture) Ranks**

|                              |             | <b>Banks</b>  | <b>N</b>   | <b>Mean rank</b> |
|------------------------------|-------------|---------------|------------|------------------|
| <b>Developmental culture</b> |             | <b>Bank A</b> | <b>138</b> | <b>231.68</b>    |
|                              |             | <b>Bank B</b> | <b>163</b> | <b>228.88</b>    |
|                              |             | <b>Bank C</b> | <b>154</b> | <b>223.77</b>    |
|                              |             | <b>Total</b>  | <b>455</b> |                  |
| <b>Chi-square</b>            | <b>.278</b> |               |            |                  |
| <b>df</b>                    | <b>2</b>    |               |            |                  |
| <b>Asymp.Sig</b>             | <b>.870</b> |               |            |                  |

a. Kruskal Wallis Test

b. Grouping Variable: Banks



As can be seen in the above table, there was no a statistically significant difference between respondents from the three banks in terms of developmental culture. The statistics table presents the Chi-square value (Kruskal-Wallis H); based on the test scores ( $H(2) = .278$ ,  $p = 0.870$ ). In general, these results support the acceptance of  $H_0$  (there are no significant differences between respondents in the three banks), and the rejection of  $H_1$  (there are significant differences between the three banks).

### 6.8.2 Kruskal-Wallis Test (Hierarchical culture)

The table below shows the results of the Kruskal-Wallis test used to determine whether there was a significant difference between respondents from the three banks for the second type of organisational culture (hierarchical culture).

**Table 6.16 Kruskal-Wallis (Hierarchical culture) Ranks**

|                      |       | Banks  | N   | Mean rank |
|----------------------|-------|--------|-----|-----------|
| Hierarchical culture |       | Bank A | 138 | 231.07    |
|                      |       | Bank B | 163 | 217.02    |
|                      |       | Bank C | 154 | 236.87    |
|                      |       | Total  | 455 |           |
| Chi-square           | 1.939 |        |     |           |
| df                   | 2     |        |     |           |
| Asymp.Sig            | .379  |        |     |           |

a. Kruskal Wallis Test

b. Grouping Variable: Banks

The Kruskal-Wallis test revealed no statistically significant differences between respondents from the three banks for the intelligence dissemination variable based on the test scores ( $H(2) = 1.939$ ,  $p = 0.379$ ). In general, these results support the acceptance of  $H_0$  (there are no significant differences between respondents in the three banks) and rejection of  $H_1$  (there are significant differences between the three banks).

### 6.8.3 Kruskal-Wallis Test (Group culture)

The Kruskal-Wallis test was carried out to investigate whether there was a significant difference between respondents from the three banks for the third type of organisational culture (group culture). The results are shown in the table below:

**Table 6.17 Kruskal-Wallis (Group culture) Ranks**

|                      |             | <b>Banks</b>  | <b>N</b>   | <b>Mean rank</b> |
|----------------------|-------------|---------------|------------|------------------|
| <b>Group culture</b> |             | <b>Bank A</b> | <b>138</b> | <b>230.61</b>    |
|                      |             | <b>Bank B</b> | <b>163</b> | <b>221.61</b>    |
|                      |             | <b>Bank C</b> | <b>154</b> | <b>227.99</b>    |
|                      |             | <b>Total</b>  | <b>455</b> |                  |
| <b>Chi-square</b>    | <b>.387</b> |               |            |                  |
| <b>df</b>            | <b>2</b>    |               |            |                  |
| <b>Asymp.Sig</b>     | <b>.824</b> |               |            |                  |

a. Kruskal Wallis Test

b. Grouping Variable: Banks

The results shown in Table 6.17 suggest that there was no statistically significant difference respondents from the three banks based on the test statistics. The table presents the Chi-square value (Kruskal-Wallis H); based on the test scores ( $H(2) = .387, p = 0.824$ ). In general, these results support the acceptance of  $H_0$  (there are no significant differences between the three banks) and rejection of  $H_1$  (there are significant differences between respondents in the three banks).

### 6.8.4 Kruskal-Wallis Test (Rational culture)

The empirical results from the Kruskal-Wallis test were used to investigate any significant differences between respondents from the three banks for the fourth type of the organisational culture (rational culture), as shown in Table 6.18.

**Table 6.18 Kruskal-Wallis (Rational culture) Ranks**

|                         |               | <b>Banks</b> | <b>N</b>   | <b>Mean rank</b> |
|-------------------------|---------------|--------------|------------|------------------|
| <b>Rational culture</b> | <b>Bank A</b> |              | <b>138</b> | <b>231.990</b>   |
|                         | <b>Bank B</b> |              | <b>163</b> | <b>220.01</b>    |
|                         | <b>Bank C</b> |              | <b>154</b> | <b>232.89</b>    |
|                         | <b>Total</b>  |              | <b>455</b> |                  |
| <b>Chi-square</b>       | <b>.952</b>   |              |            |                  |
| <b>df</b>               | <b>2</b>      |              |            |                  |
| <b>Asymp.Sig</b>        | <b>.621</b>   |              |            |                  |

- a. Kruskal Wallis Test
- b. Grouping Variable: Banks

This table shows that there was no statistically significant difference between respondents from the three banks based on the test scores ( $H(2) = .952, p = 0.621$ ). In general, these results support the acceptance of  $H_0$  (there are no significant differences between the three banks) and rejection of  $H_1$  (there are significant differences between respondents in the three banks). In conclusion, the significant value of all types of organisational culture exceeds 0.05 ( $p > 0.05$ ), leading to the acceptance of the null hypothesis and rejection of the alternative hypothesis.

Overall, all the results from the comparison of the three banks, in which the Kruskal-Wallis test was used, indicate no significant differences between the respondents from the three banks. No differences in their views on “types of organisational culture” in their banks were found. Consequently, there was general agreement between these groups on the types of organisational culture, making it possible to merge the three banks. No comparisons need to be made between them; instead, they can be used as a single group.

### 6.9 Third objective: To identify the main barriers to TQM implementation in Libyan banks

From the respondents' point of view, the most important barriers which affect TQM implementation in Libyan banks were a lack of top management commitment, a lack of training programs relating to the quality management system, and weakness in focusing on customer satisfaction and their expectations (as shown in Table 6.19). Respondents were asked to assess these 12 obstacles according to the degree to which they prevented the success of TQM implementation in their banks. These factors were measured by questions built on a four-point scale: (0) not a barrier, (1) a weak barrier, (2) a barrier, (3) a strong barrier:

**Table 6.19 Results regarding TQM implementation obstacles**

| <b>Barriers</b>  | <b>Mean</b> | <b>Rank</b> |
|--|-------------|-------------|
| Weakness of attention to quality culture                             | 1.820       | 10          |
| Employees resist change to the existing system in the organisation   | 1.684       | 12          |
| Lack of training programmes on the quality management                | 2.015       | 2           |
| Lack of top management commitment to TQM implementation              | 2.080       | 1           |
| Weak focus on customer satisfaction and expectations                 | 1.963       | 3           |
| Weak commitment to quality strategy requirements                     | 1.824       | 9           |
| Lack of a motivation and reward system                               | 1.844       | 8           |
| Lack of use of benchmarking  | 1.778       | 11          |
| Poor organisational communication                                    | 1.912       | 6           |
| Ineffective communication between the organisation and its customers | 1.960       | 4           |
| Inefficient information system used in bank                          | 1.914       | 5           |
| Lack of understanding of the benefits of TQM                         | 1.881       | 7           |

Table 6.19 shows the mean scores for those barriers which prevent the implementation of TQM in Libyan banks. The highest mean was 2.088 and the lowest 1.820. The table therefore illustrates that lack of top management commitment to TQM implementation, a lack of training

programmes on the quality management and a weak focus on customer satisfaction and expectations respectively were the major barriers preventing the implementation of TQM in Libya banks. All factors are shown below in order of the degree to which they prevent the successful implementation of TQM in Libyan banks.

1. Lack of top management commitment to TQM implementation.
2. Lack of training programmes on the quality management.
3. Weak focus on customer satisfaction and expectations
4. Ineffective communication between the organisation and its customers.
5. Inefficient information system used in bank.
6. Poor organisational communication.
7. Lack of understanding of the benefits of TQM.
8. Lack of a motivation and reward system.
9. Weak commitment to quality strategy requirements.
10. Weak attention to quality culture.
11. Lack of use of benchmarking.
12. Employees resist change to the existing system in the organisation.

## **6.10 Chapter summary**

This chapter presented the analysis and findings of the data collected through questionnaires. Factor analysis was carried out to identify major factors of TQM implementation; eight out of ten of factors were identified by factor analysis for TQM implementation in the Libyan banks. In addition the Wilcoxon test was used to determine the level of TQM implementation in Libyan banks. The level of TQM implementation in Libyan banks was found to be low. Multiple regression was used to explore the influence of organisational culture types on TQM implementation factors. The level of TQM implementation was found to be low. In addition, only two types of organisational culture (group culture and developmental culture) were found to have an impact on TQM implementation. Finally, the major barriers to TQM implementation were identified as lack of top management commitment, a lack of training programs on the quality management; and a weakness focus on customer satisfaction and expectations. The next chapter

discusses the findings of the questionnaire and the data obtained from the interviews to support the questionnaire results.

## **Chapter seven: Discussion of the Finding**

### **7.1 Introduction**

This chapter discusses the results that emerged in chapter six, and also presents the findings obtained from the questionnaire and the interviews, to help explain and expand upon the findings obtained from the quantitative research tools. This section provides a comprehensive discussion of the research findings, both quantitative and qualitative, and links them to the relevant literature in order to realise the research objectives.

### **7.2 Characteristics of the sample**

The purpose of including this section in the analysis is to present an overview of the characteristics and issues related to the demographic information that describes the research respondents and to detect any significant differences in their perceptions. In the sample for the study males (67%) greatly outnumbered females (33%); this is a result of the reality that the majority of employees in Libyan banks are male. In Libyan culture, as in many other Arab countries, the men comprise the majority of the workforce. This is due to several considerations, including the nature of Arab and Libyan society, which is conservative and religious. Typically women are not expected to work in male-dominated organisations, and usually males are responsible for providing for the financial needs of their dependents (wife, daughter, sons, and sometimes parents). In Arab culture, women tend to accept less responsible work, such as that offered by secretarial and administrative jobs; or they choose to take roles in the health or education, and the services sectors, possibly because these jobs involve less contact with men and so are more consistent with the expectations placed on them by Islamic culture.

In terms of age, the study reveals that the majority of respondents (74.1%) were aged from 31 to 50. This indicates that most respondents had a good experience in relation to banking work. Additionally, the study showed that many of the respondents had a good experience working for their employers, with nearly (49.9%) of the respondents having more than 11 years' experience at their organisations. This longevity of service enabled them to offer a wealth of information about TQM implementation, and also to be able to judge the level of quality management in their banks. Therefore, the experience of the respondents was among the most prominent factors expected to provide high quality information.

In relation to the respondents' education level, the majority (90.7% of respondents) at the Libyan banks had a minimum qualification of a bachelor's degree. This indicates that overall the employees had good educational qualifications, meaning they were well qualified to work at the banks. Moreover, it seems that the management of the banks preferred to recruit employees with high level qualifications, and it is expected that this will be reflected positively in the progress of the business, and also be linked to successful managerial work and practices.

In terms of the position of the respondents at the Libyan banks, the findings showed that 44.2% were employees, whereas 55.8% of the respondents were classified as general managers, middle managers, quality managers, and supervisors. This indicates that they should be able to provide relevant information related to quality practice within their organisations, also that they have good experience of the practice and implementation of TQM within the Libyan banks.



### **7.3 First objective: to determine the level of TQM implementation in the Libyan banks**

Prior to achieving the first and second objectives, factor analysis was carried out to reduce the large number of variables of TQM, and to test the construct validity of research measures. Eight out of ten factors were identified by factor analysis for TQM implementation in the Libyan banks, as shown in table 6.4. These factors were ranked as follows: customer focus and satisfaction, top management commitment, employee training, quality policy, employee involvement, benchmarking, continuous improvement, and reward and recognition. The objective of this section is to discuss the findings obtained from the questionnaire and interviewees to determine the level of TQM implementation in Libyan banks; the Wilcoxon test was also used to determine the level of TQM implementation. The level of TQM implementation in Libyan banks was found to be low for all TQM factors, which included:

#### **7.3.1 Top management commitment**

The questionnaire results revealed low top management commitment to the implementation of TQM in Libyan banks. The questionnaire measured top managers' commitment through an analysis of six items and the findings also showed low levels of top management commitment to operations in the Libyan banking sector.

The overall mean for this factor was 2.552 determined on the five-point Likert Scale. This result was confirmed by applying a Wilcoxon test, which confirmed low level of top management commitment in TQM implementation (see section 6.4.2). The qualitative analysis of the interviews conducted with general managers and quality managers supported the data gained from the quantitative analysis. Although the majority of managers and quality managers at the Libyan banks recognised the important role that top managers could play with regards to implementing TQM at their banks, all quantitative and qualitative results confirmed that there

was nevertheless a lack of top management commitment. The interviews revealed that the Libyan banks were still operating using a traditional, bureaucratic management style, as reflected in the comments made by one quality manager who stated:

*“Although issues of quality and continuous improvement of operations are discussed in the meetings at top management level, our top management have a clear weakness in reference to participating in the activities of the quality and improvement process, and they do not deliver the bank's vision clearly at all levels”.*

Most of the respondents believed that top management could become an obstacle to implementing TQM, in the sense that management behaviour may be rooted in traditional administrative processes or based on a power oriented top-down approach. Some respondents expressed their concerns about management style, which sometimes created an obstacle to implementing TQM in Libyan banks. One supervisor stated:

*“The use of power and traditional management practices by top management is an ineffective method to implement TQM or improve bank services”.*

And he added:

*“Top Management should use their power to support and help staff to do their work and improve it, and involve them in decision making”.*

In addition, most supervisors and quality managers mentioned that an authoritarian management approach existed within their banks. One supervisor stated:

*“Managers often do not accept any comments or suggestions, they generate the roles and policies, coordinate activities, identify problems and alternatives, and give instructions to the staff rather than sharing information, and allowing staff to participate in decisions that will help them when performing their work”.*

This was confirmed by another quality manager when he said:

*“Some managers are still practicing and stressing control policies, I think, they use a somewhat authoritarian management style; they give orders and instructions without the participation of supervisors and employees when making decisions or planning future programmes”.*

Top management should learn more about TQM philosophy, and related tools. Top management are unlikely to perform their role with regards to leading their organisations towards TQM implementation unless they can contribute commitment and support; offering sufficient knowledge, planning, preparation, vision and the necessary policy deployment. As one of quality manager said:

*“In my opinion, it may be that one reason for the weak implementation of TQM in the bank is due to failure to perform the important role of senior management in support of the implementation of quality management, and a lack of sufficient knowledge of the benefits and enormous improvements that can be achieved by the implementation of TQM”.* He added that:

*“We have tried many times organising awareness sessions, and internal panel discussions for senior management and supervisors in some departments, but unfortunately the attendance was low, and there was no enthusiasm for participation and development”.*

On balance the qualitative data shows a general reluctance for top managers to engage in the necessary training and activities required to implement a TQM led approach. The results of this study are consistent is in line with the findings of Al-Khalifa and Aspinwall (2001), who conducted their study in Qatar, and found that there was a lack of top management commitment and support for quality management; they considered this a contributory factor leading to ineffective TQM implementation. This study concurs with the findings of research conducted by Hokoma et al. (2010), which found that there was a lack of support from senior managers in reference to the implementation of TQM within the iron and steel industry in Libya.

However, comparing this study with other studies in the Middle East, the results were notably different from research by Curry and Kadasah (2002) conducted in Saudi Arabia, and Baidoun

(2004) in Palestine. They discovered that the top management in these countries supported the implementation of TQM and were willing to make efforts to do so. Similarly, Das et al. (2011), in their study of the role of leadership competencies in implementing TQM in the Thai manufacturing industry, found that top management had a very important role to play in ensuring the successful implementation of TQM; they were also able to create an appropriate environment for implementation. Valmohammadi (2011) also found that top management played a significant role in TQM implementation which enhanced the organisational performance of Iranian SMEs engaged in manufacturing. In addition, Koh and Low (2010) found that top management implemented TQM at higher levels within Singapore Construction Companies. Salaheldin (2003) confirmed that top management was the main factor and the driving force contributing to, and encouraging the implementation of TQM in Egypt. In addition, Talib et al. (2011a) found that top management commitment was considered as the first requirement in TQM implementation, and that the upper echelons of management led the way in improving the quality of health care institutions.

The TQM literature widely confirms the importance of the role of top management in the successful implementation of TQM; a role that can be reliant on formal power to facilitate the allocation of resources to hasten the implementation of TQM (Das et al., 2011). This is strongly supported by the studies conducted by Saraph et al. (1989), Ahire et al. (1996), Tsang and Antony (2001), Antony et al. (2002), and Baidoun (2004). Hradesky (1995) refers to the ability of managers to achieve the integration of major activities under the TQM umbrella, and the need for top management participation and performance, requiring appropriate allocation of both time and resources. According to Deming (1986), quality is the responsibility of the top management.

### 7.3.2 Customer focus and satisfaction

Although all the general managers, quality managers, supervisors, and employees of the Libyan banks that participated in this study were aware of the value and significant role of customer focus, especially as regards playing an important role in service improvement and success in their bank, the questionnaire results revealed low customer focus and satisfaction in Libyan banks. The questionnaire measured customer focus and satisfaction using six items. The findings showed low levels of customer focus and satisfaction with an overall mean of 2.549 on the five-point Likert Scale. This result was confirmed by a Wilcoxon test, indicating a low level of customer focus and satisfaction in TQM implementation (see section 6.4.2). In addition, the banks surveyed directed little attention towards their customers. The qualitative data confirmed this and all the managers and supervisors interviewed gave the impression of a lack of focus on customer satisfaction; as one general manager mentioned, his bank had established a particular department to provide improved services to customers, but his comments indicate negative dealings in relation to the suggestions and expectations of customers. He stated that:

*“We know that the customer is the main indicator and customer satisfaction is the heart of our business operations that assists in developing our processes and services. We have established a special department concerned with the issues of customers, to identify their needs and suggestions, and measuring their satisfaction, but this department has little interaction with external customers and they are slow in moving to improve the situation”.*

Another general manager mentioned a different view:

*“Customer satisfaction is one of the main objectives in the bank, and we give attention to their needs and requirements. We have a customer services department that helps us to receive complaints and suggestions from customers and measure their satisfaction with our products and services, and provide the best services to them”.*

Another quality manager stated that customer services and responding to their requirements is the responsibility of all the employees and staff at the bank:

*“We try to offer the best of services to customer through our employees and departments; so any employee can be responsible for responding to a customer’s needs, and help them in their enquires”.*

Some managers were less optimistic about the state of customer focus in their bank; one quality manager stated that:

*“The attention of top management and staff for customer satisfaction are insufficient in this bank compared with other banks, and also the employees do not have sufficient authority when dealing with customer complaints”.*

The literature in the TQM area considers customer focus and satisfaction as the most important reason for the implementation of a TQM philosophy (Deming, 1986). This is confirmed by Tsang and Antony (2001), who found that customer focus was considered to be the most significant factor for TQM implementation in UK service organisations. Talib et al. (2011a) also found that customer focus and the commitment of top management were the factors that contributed to successful TQM implementation and improvements in the performance and provision of customer services; they also produced customer satisfaction through continuous improvement in health care institutions in India.

Moreover, Miyagawa and Yoshida (2010) in their study regarding the TQM practices of Japanese-owned manufacturers in the USA and China, and also Valmohammadi (2011) in his study of Iranian manufacturing, both found that customer focus and satisfaction contributed positively and significantly to organisational performance issues, such as reducing costs. This was also confirmed by Fotopoulos and Psomas (2010) in their study of Greek companies; they found that top management commitment, and customer focus and satisfaction were the most

important factors, which significantly affected companies' performance with respect to their internal procedures, customers and market share.

### **7.3.3 Quality policy**

The questionnaire results revealed a low quality policy in Libyan banks. The questionnaire measured quality policy through five items. The findings showed that there were low levels reported for the quality policy and the planning of operations in the Libyan banking sector. The overall mean for this factor was 2.458 on the five-point Likert Scale. This result was confirmed by a Wilcoxon test; indicating a low level of quality policy in TQM implementation (see section 6.4.2). The interview findings involved general and quality managers, also giving the impression that quality policy was at a low level in the Libyan banks surveyed. Some of the interviewees failed to mention the role that quality policy could potentially play in the implementation of TQM within their banks. This might indicate that they had a lack of knowledge about the value and importance of quality policy. In addition, they revealed that some quality efforts failed due to the fact that quality policy was not clear at all their bank's branches, and many problems were related to the ambiguity of their quality policy. One supervisor mentioned that:

*“In my opinion, quality policies have not been clear for employees at all levels in the bank and its branches, which led to the loss of the efforts to total quality management”*. And he added:

*“The quality policy should be clearly defined and easily understood so as not to cause any confusion among implementers. To avoid certain problems, such as misunderstandings of the purpose of change, the quality policy has to be communicated as widely as possible throughout the whole of the bank and its branches”*. In the same vein, another quality manager stated:

*“Quality policies were not clear enough to all staff; most of the employees did not have enough knowledge to implement these plans, which leads to disruption in performance and policies”*.

According to Zairi and Youssef (1995), top managers should play an important role in quality policy, as this is considered one of the fundamental pillars in the implementation of TQM. These aspects of policy must rely on a clear statement of mission/vision, quality goals and guiding principles. In this context, Crosby (1979) stated that a quality policy is the main criterion for the practice of quality management, which sets priorities through its influence on the performance of the organisation, and shows to managers, and employees what should be done inside organisation.

The TQM literature reveals that quality gurus and researchers have heavily emphasised the importance of quality policy, which is essential for the effective implementation of TQM; most experts in the area agree that planning in long-term is necessary to ensure successful implementation (Deming, 1986; James, 1996; Sinclair and Zairi, 2001; Sureshandar et al., 2001). In contrast, the lack of quality policy in organisations is considered a barrier to the effective implementation of TQM (O'Regan and Ghobadian, 2002). Therefore, the top management in Libyan banks should ideally take concrete actions, such as formulating a quality policy, which should include a vision and mission, and outline the quality objectives which the organisation wants to achieve. In addition, the policy should be clearly defined and be easily understood in order to avoid any confusion occurring among the implementers. The quality policy should be communicated widely throughout the bank and its branches.

#### **7.3.4 Employee Training**

The questionnaire results revealed a low of employee training on TQM programmes in the Libyan banking sector. The questionnaire measured employee training based on five items and found low levels of employee training involved in the operations in the Libyan banking sector. The overall mean for this factor was 2.524 on the five-point Likert Scale. A result confirmed by



the Wilcoxon test, indicating a low level of employee training in TQM implementation. In the interviews, most of the respondents acknowledged that the banks had spent time and money on training programmes; including sending employees to learn English in English speaking countries, and computer and IT programmes in other countries. Some of the respondents revealed that the training methods were not well designed to cover the TQM implementation process, and training needs are not well defined; as one supervisor stated:

*“Management at the bank had a variety of training programmes, but unfortunately, the training needs were not always well designed, as well as the objectives of each programme may not be clear, and they do not assess and measure these training programmes and its impact on the trainees after the end of the programme”.*

Through the interviews, the study also found that most respondents exhibited a negative attitude regarding the training processes offered by their organisations. The results revealed that those employees made responsible for training were not trained in either problem identification or problem-solving techniques. In addition, the study revealed that seminars and workshops involving TQM issues were of an insufficient for employees, and that training did not cover the entire workforce as part of an ongoing process. This suggests that on balance it can be concluded that the banks were not allocating adequate time to training their employees generally, and particularly not in relation to TQM. Therefore, the respondents did not recognise their organisation to be paying sufficient attention to the training of their employees. This can be seen as an indication of a lack of commitment on the part of the banks to the development of a quality culture by integrating supportive programmes. As one of the respondents stated:

*“We may be reluctant to train our employees simply because when employees become qualified they leave to work for other banks, which might offer them a higher salary and other opportunities that we cannot offer. So we feel sometimes that we do not want to spend more money for the benefit of others”.*

Moreover, it is clear from the responses that the managers themselves lacked the time to attend training programmes; as one quality manager commented:

*“General and Middle managers are occupied with so many tasks that it becomes hard for them to participate in the training courses”.*

One supervisor mentioned that his bank pays attention to training, but little of it was in the field of quality, when he said:

*“The management of the bank have attention in internal and external training programmes for our employees to achieve high levels of performance and efficiency for staff, but these training programs were very few in the field of quality and improving banking operations”.*

Given that one of the primary objectives of TQM is continuous improvement, the lack of continuous training in the field of TQM could be considered as a significant barrier to successful TQM implementation in Libyan banks. It is logical that if the current training regime fails to adequately prepare employees to perform their roles efficiently, then TQM will face difficulties in its implementation

These results are in line with the findings of the research conducted by Masters, (1996) who found that one of the contributing factors leading to ineffective TQM implementation was the absence of continuous training and education. Similarly, Tamimi and Sebastinelli (1998) found several factors working against TQM implementation. The major barriers they identified was the lack of training in areas such as group discussions, quality improvement skills, communication techniques, problem identification and problem-solving techniques. These results were supported by Jun et al. (2004), who found that the lack of training in group discussion and communication techniques, as well as the lack of employee’ training in problem identification and problem-solving were important barriers to the successful implementation of TQM. The results of the studies conducted by Antony et al. (2002) showed that a lack of training and education was the

most important factor contributing to the unsuccessful implementation of TQM in Hong Kong, which is in line with the results of this study. Kumar and Antony (2008) also found that a lack of training was one of the key impediments to the successful introduction of quality initiative implementation in UK SMEs. Furthermore, Amar and Zain (2002) observed that poor training and education present a significant barrier in the development and implementation of any quality programme. These findings are inconsistent with the literature, which states that training efforts are one of the keys to successful TQM implementation (Schonberger, 1994; Claver-Cortes et al., 2008).

### **7.3.5 Employee involvement**

The questionnaire results revealed that Libyan banks were suffering from a lack of employee involvement in the TQM process. The questionnaire measured employee involvement based on five items. The findings showed that there were low levels of employee involvement in the operations of the Libyan banking sector. The overall mean for this factor was 2.503 on the five-point Likert Scale. This result was confirmed by the Wilcoxon test, indicating a low level of employee involvement in TQM implementation. The questionnaire findings revealed that employees were not encouraged to give suggestions, were not involved in decision-making about their day-to-day activities, and were not involved in quality-related activities. In addition, it was apparent through the interviews that respondents believed that employees had insufficient involvement in daily activities at the banks. This means top management did not pay appropriate attention to the participation of employees in decision-making or seek their help to solve daily problems. This could cause a serious failure in TQM implementation. Furthermore, participants emphasised that managers did not play a genuine role in achieving successful employee involvement. As one quality manager stated:

*“If you want to be successful in TQM implementation, top management must be committed to involve its employees in decisions making. Top management must understand TQM, believe in it and then demonstrate their belief and commitment through their daily practice of TQM, giving an opportunity for employees to participate in making decisions, and accepting their suggestions, ideas, and opinions; but unfortunately some managers regularly refuse to listen to their employees or engage their participation in decisions making”.*

Based on the interviews with Libyan managers, there was no evidence of good communication between the top management and low level employees, which could be considered a vital step to implementation of quality management at the organisation through employee involvement. As one supervisor said:

*“To be successful in the implementation of TQM, you must encourage employees to suggest ideas for work improvement, involve employees in decision-making, and urge those employees to be creative and innovative”.* And he added that:

*“There are not great opportunities for employees to provide their contributions and suggestions, as well as the use of means of communications are very few in the bank, such as regular meetings, videos, and open days for communication purposes, where all our employees would be able to meet and talk with top management and explain the difficulties in the bank, and the current work environment”.*

The results showed that the Libyan banks were suffering from a lack of employee involvement. This may indicate that the banks had spent minimal effort and investment on the development of their employees and teamwork, and so failed to appreciate the importance of their employees as a valuable asset to the bank. This means that the prevailing reality does not permit the participation or the ideas of employees at the lower levels of management, which affects the implementation of TQM in the earlier, as well as the latter, phases (Al- Khalifa and Aspinwall, 2000, Antony et al., 2002).

Consequently, the overall conclusion is that the Libyan banks are suffering from a lack of employee involvement. This is contrary to the literature defining TQM, which describes the involvement of employees as one of the most important factors in the implementation of TQM initiatives (Sumukadas, 2006; Das et al., 2011). For instance, Sila and Ebrahimpor (2002) found that employee involvement was the most important success factor informing TQM implementation at organisations through a review of the literature (1989-2000), where it was this factor amongst others that led to a higher percentage of coverage (220 out of 347 surveys) across the literature. Baidon (2004) observed in his study that TQM requires employees' involvement and commitment to the success of TQM implementation, with individuals working together as components of one system. TQM must be truly spread organisation-wide to successfully achieve business efficiency and effectiveness. Gadenne and Sharma (2009) found that improved overall performance appears to be favourably influenced by TQM implementation. They also revealed that employee involvement and employee training would appear to be important in maintaining customer satisfaction in Australian SMEs. Das et al., (2011) found that employee involvement was the most important factor amongst others for Thai companies. This led to a continuing process of quality improvement at all levels across organisations.

Marchington and Wilkinson, (2000) suggested that employee involvement is fundamentally important to successful TQM; requiring a high level of employee responsibility to establish continuous growth. Kano (1993) considers employee involvement and commitment to the goals of the TQM process as a condition of its successful implementation. On the other hand, the results of this study are consistent with Antony et al. (2002) who found a lack of employee involvement at Hong Kong organisations. Lakhe and Mohanty (1994) mentioned that most developing countries were suffering from a lack of employee involvement and participation in quality improvement efforts. Al- Khalifa and Aspinwall, (2000) found that there was a lack of

employee involvement in the decision making process at most companies in Qatar, and many reported that their decisions were usually based on short-term considerations.

### **7.3.6 Reward and recognition**

The questionnaire measured reward and recognition based on five items, and the findings showed that there were low levels of reward and recognition systems in the Libyan banking sector, which has negative affect on TQM implementation. The overall mean for this factor was 2.558 on the five-point Likert scale, and this was confirmed by the Wilcoxon test. The questionnaire findings revealed that the respondents believed to a certain extent that there was a lack of appropriate reward and recognition for outstanding performance in Libyan banks. Moreover, it could be seen from the responses to the interview process that management in general did not encourage, reward or even evaluate their employees' suggestions with regards to quality matters at the banks.

A statement from one of the respondents illustrates this result:

*“There is weakness in the system of rewards and appreciation of the staff regarding their achievements and dedication to work, and this leads to lack of interest and negative employee motivation at work”.*

Some of the respondents stated that even though rewards were limited, they were often given to those who did not deserve them, or were otherwise distributed unfairly. One supervisor highlighted this point about unfair apportionment of rewards between employees.

*“There is system for recognitions and rewards in this bank, but unfortunately, rewards and recognition are often awarded on the basis of favouritism, and personal relationships and friendship, in other words, there is an unfair apportionment of rewards between employees”.*

Another supervisor stated that:

*“There is not equality in the rewards different employees receive or between managers' and employees' rewards”.*

And another added:

*“Rewards are often not appropriate to the work, especially for hard workers”.*

In addition, family ties have an impact on Libyan employees outside and inside organisations, which affects organisational practice, and the relationships between the people inside the organisations. One supervisor mentioned that:

*“Family and social relationships have an impact on the rewards given to employees in the organisation; this may be having a negative effect on employees and the organisation. This also might affect relationships and the level of trust between managers, employees and even customers”.*

These results are consistent with the findings of Whalen and Rahim (1994) who mentioned that a lack of a proper reward or recognition system was one of the barriers affecting quality management implementation. Similarly, Nagi and Cheng (1997) found that a lack of reward and recognition systems was among the impediments which led to the ineffectiveness of the implementation of TQM. Najmi and Kehoe (2000) affirmed that one of the barriers to successful quality development relates to a lack of appropriate performance measurement systems.

On the other hand, many authors have cited the importance of rewards and recognition in establishing an effective TQM process, e.g. Rao et al. (1996). Zhang (2000) stated that reward and recognition related activities should be used to effectively stimulate employee's commitment to quality improvement. Ab-Rahman and Tannock (2005) found that rewards and recognition systems are considered to be key success factors affecting TQM implementation. They stated that a well-designed staff and team recognition system is effective when used for reinforcing and encouraging desired behaviour and motivating staff involvement in TQM. Juran (1989) also believes that a reward system is an important issue to address when encouraging organisational development. In a similar vein, Crosby (1989) considers recognition to be one of the most important steps in the quality improvement process. Rad (2005) also considers that the success of

TQM requires employee commitment, and their comprehensive engagement in quality improvement activities. Such participation is then ideally reinforced by reward and recognition systems which emphasise the achievement of quality objectives. According to Issac et al. (2004), organisations must foster this culture of promoting ‘employee suggestions’ through a proper reward and recognition philosophy.

### **7.3.7 Benchmarking**

The questionnaire results revealed that there were low levels of benchmarking for performance operations at the Libyan banks. The overall mean for this factor was 2.550 on the five-point Likert Scale. This result was also confirmed by a Wilcoxon test, indicating a low level of benchmarking in regards to TQM implementation. The interviews with the respondents confirmed this impression; indeed most of the interview respondents did not refer to the use of benchmarking as a tool for comparing their banks with other banks to improve services or management processes; although one of supervisors mentioned that his bank uses benchmarking to compare the performance of the bank’s branches. In this context one quality manager mentioned that:

*“We have not established good benchmarking to measure our progress in continuous quality improvement. We do not use tools to assess our progress in all processes such as external and internal customer surveys, organisational self-assessments, customer complaints and resolution systems, or even tools to compare our performance with other banks”.*

Another manager stated that:

*“We do not often use benchmarking to accurately measure the bank’s situation compared with other banks inside and outside Libya, particularly Arab banks”.*

One supervisor commented in different way that:



*“Sometimes, we use the benchmarking for comparing financial performance between our branches in order to determine the levels of the strengths and weaknesses in the financial performance of each branch”.*

These results did not match the standards set out in the TQM literature, which introduced benchmarking as a part of TQM (Thiagarajan and Zairi, 1997; Biggs, 2000); for example, Oakland (1995); and Liston (1999) consider that benchmarking is a tool used to improve services, products or management processes by analysing the best practices of other companies, leading to superior performance and competitive advantage and continuous implementation of change. Furthermore, according to researchers such as McNair et al. (1992); Ghobadian and Woo, (1996) many of the best organisations use benchmarking as a tool for obtaining information that can be used to guarantee their continuous improvement, and to establish a competitive edge. Finally, the aim of the benchmarking effort is the promotion of TQM implementation and continuous improvement across all organisational activities (Yasin and Alavi, 2007).

### **7.3.8 Continuous improvement**

The questionnaire measured continuous improvement based on seven items. The overall mean for this factor was 2.549 on the five-point Likert Scale and this was confirmed by the Wilcoxon test, indicating a low level of continuous improvement in TQM implementation.

In the face-to-face semi-structured interviews, some of respondents showed that there had been improvement in the quality of services after the entry of a foreign partner as an investor, which led to a change in banking operations and improvement in the quality of services. In this regard, one general manager mentioned that:

*“Although we strive for continuous improvement in all activities, unfortunately we suffer from the slow pace of improvement. Now we are trying to implement continuous improvement through employee training and by updating our technology, and through the development of new plans*

*with our foreign partner in order to provide the best services for our customers at the lowest costs”.*

Another general manger stated:

*“The Libyan banking sector has suffered from government intervention over the last three decades. This intervention has led to many problems including the laxity of management and lack of internal control systems. These problems have made banking reform programmes more urgent. Among the banking reforms needed to improve our services are the introduction of new services and the use of new technologies to perform banking operations”.*

One quality manager stated that:

*“We know that continuous improvement is the most important factor in the implementation of quality management, so we are very interested in operations improvement within the bank in order to improve the level of customer service and improve the efficiency and performance of the bank; so we strive to introduce the latest technologies to help our employees with improvement processes and upgrading services level”.*

In the TQM literature many scholars and experts have mentioned the concept of TQM as based in essence on continuous improvement. Continuous improvement is necessary to achieve quality (Das et al, 2011; Talib et al, 2011a). Temtime and Solomon (2002) emphasised that continuous improvement of quality should be implemented step-by-step according to a systematic procedure, and they asserted the importance of searching for the root causes of problems and developing permanent solutions rather than relying on rapid fixes.

According to Mar Fuentes-Fuentes et al. (2004), continuous improvement provides two critical advantages, namely, creating value for customers through the achievement of their requirements and needs, and removing and reducing errors and defects in the processes which lead to a reduction in costs and the achievement of greater profitability.

Similarly, Tsang and Antony (2001) suggest continuous improvement is the most important factor in TQM, which depends essentially on continuous improvement in operations, and aims to eliminate defective products, reduce errors, and improve the quality of processes, services, and the other activities carried out by organisations. Mohanty and Behera (1996) also pointed out that it is necessary to develop a strategy for continuous improvement for the analysis of the following: the needs and expectations of the customers; service processes and operations; benchmarking; functions and project objectives; and feedback system and evaluation. Samat et al. (2006) found that continuous improvement had a significant effect on service quality as did Das et al., (2011). In addition, Talib et al., (2011a) found that continuous improvement was critical for the successful implementation of TQM in health care organisations, and that it leads to improved quality of care, reduced operating costs, patient satisfaction, and reportedly, the improved performance of health care institutions.

Overall, the results of the questionnaire showed that the level of TQM implementation in the Libyan banks was low; also, findings from the interviews showed that there were weaknesses in the implementation of TQM, and the Libyan banks had not achieved the benefits and goals of the implementation of TQM. In addition, the result also showed that the Libyan banks faced some barriers and difficulties in the implementation of TQM, which led to a low level of TQM implementation.

#### **7.4 Second objective: To explore the influence of organisational culture types on TQM implementation factors**

Multiple regression of the questionnaire results indicate that only two out of the four organisational culture types had a statistically significant influence (p-values= .000 at  $p < 0.01$ ) affecting the explanatory power of the model. The multiple regression showed that group culture had a positive influence on all TQM factors, and developmental culture had a positive influence

on six of the TQM factors, which were; top management commitment, customer focus and satisfaction, quality policy, employee training, employee involvement, and benchmarking. The findings of the multiple regression analysis also showed that hierarchical culture and rational culture did not contribute significantly to the regression model. Therefore, they were removed from the model. In addition, the analysis showed that group culture had the largest impact on all TQM factors based on the size of the standardised coefficients (Beta), which was larger than the developmental culture. This means that group culture is the dominant in the model.

When considering these findings it is evident that two types of organisational culture (group culture and developmental culture) had an influence on the TQM implementation factors in the Libya banks. This means that TQM implementation factors were associated with group and developmental culture types, which were the most supportive for the implementation of TQM. Group culture emphasises flexibility and internal orientation. This culture focuses on promoting the development of human resources through encouraging teamwork, empowerment, trust and participation, emphasising openness, and showing concern for employee's ideas and suggestions. Development culture also emphasises flexibility but with additional focus on the external environment. This culture focuses on an orientation towards growth, resource acquisition, stimulation of creativity, innovation, and continual adaptation to the external environment to meet the requirements and needs of customers.

This might indicate that the Libyan banks have an opportunity to improve the level of TQM implementation by increasing their focus on group and developmental cultures, and by instituting a greater focus on increasing awareness and knowledge for employees at all levels within the banks, because they are most supportive of the implementation of TQM, and these cultures share elements with some of the TQM factors. This suggestion was supported by Al-khalifa and Aspinwall (2001) who found that the ideal organisational cultural types supporting the

implementation of TQM were classified as group and developmental cultures. Effective implementation of TQM requires an organisational environment that encourages open communication and employee involvement to facilitate changes, and provide those resources necessary for continuous improvement (Ahire and O'Shaughnessy, 1998; Flynn et al., 1995). Chang and Wiebe (1996) found that TQM practices were associated with different organisational culture types as given in the Competing Values Framework (CVF), but noted that they would be best implemented in organisations where developmental and group culture types were dominant, as they were most supportive of the implementation of TQM practices. The findings of this study are also consistent with the study conducted by Dellana and Hauser (1999) who found that group and developmental culture types had a strong and positive influence on TQM practices, and hierarchal and rational culture types had strong negative influences on the level of implementation of TQM practices. Jabnoun and Sedrani (2005) found that TQM practices correlate with all organisational culture types, but that they have their strongest correlation coefficient with certain types of group and developmental culture types. In addition, Prajogo and McDermott (2005) found that group culture was the most dominant among these four cultural dimensions. It showed a significant and strong relationship across all TQM factors. They also found that both developmental and rational cultures had a positive relationship with certain TQM factors, such as; leadership and people management, customer focus, and process management. In addition, this study revealed that hierarchical culture had a significant relationship, through less strong, with certain TQM factors, such as; process management, information and analysis, and strategic planning. Zu et al. (2010) found that rational culture and group culture had a significant effect on TQM implementation, while developmental culture was significantly related to only one TQM implementation factor. In addition, they found that hierarchical culture had no effect on TQM implementation at USA manufacturing plants.

On the other hand, in this study the multiple regressions of the questionnaire results revealed that hierarchical culture and rational culture had no influence on any of the TQM implementation factors relevant to the Libyan banks.

According to McDermott and Stock, (1999) hierarchical culture emphasises control and stability. This culture is characterised by internal efficiency, process control, rules and regulations, and uniformity. Rational culture emphasises control over the external environment, and focuses on competitiveness, placing an emphasis on productivity, performance and the achievement of goals. In some studies it has been found that there was no significance that could be related to hierarchical culture. For instance, Cameron and Freeman (1991) found that the hierarchical culture was not related to any measures of organisational effectiveness in US higher education institutions, and Quinn and Spreitzer (1991) found that an overemphasis on hierarchical culture was damaging to organisational effectiveness, and the performance of such organisations was very weak, with a low quality work climate. Al-khalifa and Aspinwall (2001) found that in Qatar, companies found it difficult to implement TQM because they were dominated by a rational and hierarchical culture, but tended to have a mix of four, three, or two of the culture types in the CVF instrument. Trivellas and Dargenidou (2009) found that hierarchical culture was the most prevalent and dominant type observed as operating between faculty and administration members of Technological Educational Institute (TEI) of Larissa. Tata and Prasad (1998) suggested that a flexibility-oriented culture is likely to be more conducive to the success of TQM implementation, compared to control -oriented cultures.

The interviews with the respondents confirmed that the group and developmental culture types had influenced the implementation of TQM. One quality manager stated:

*“Now, we are working in a highly competitive environment and this requires us to pay more attention to the culture of development and the culture of teamwork within the organisation; so*

*we very much want to develop innovation, creativity and growth in this highly competitive market. Implementing TQM is a key to our success and the ability to develop collective culture and developmental culture of creativity and innovation among employees contributes to the implementation of total quality management and continuous improvement for competing in the market”.*

This was confirmed by another general manager when he said:

*“The organisation places considerable emphasis on results and the final services are the most important. Customers are highly valued and need services which should allow them to be competitive in the marketplace; to be able to be competitive we have to work hard to increase the level of team work, employee involvement and empowerment, and encourage creativity and growth within the bank”.*

The interviews also revealed that these banks had a hierarchical culture type. One general manager stated:

*“This bank is a highly structured place and respect is shared by all employees in the bank. It is like a structured family or clan type organisation”.*

Another general manager commented:

*“Our organisational culture is characterised by its highly structured, formal relationships; official procedures are followed, and the hierarchy is respected”.*

Interviews also revealed that the banks have encouraged teamwork, and emphasised control over employees. One supervisor said:

*“The organisation values and encourages teamwork, stresses control, punctuality, values tradition, stability, and agreement”.*

Through the interviews, some respondents complained from the phenomenon of *wasta* and nepotism, which are prevalent phenomenon in Libyan society and something negatively affected the implementation of TQM and organisational performance in the Libyan banks. *Wasta* (an Arabic term loosely meaning ‘influence’ or ‘mediation’ through a network of employees, patrons and clients; used to refer either to the person possessing influence or the influence itself) and is a

particular kind of favouritism. Mohamad and Mohamed (2011) defined *wasta* as the intervention of a patron in favour of a client in an attempt to obtain privileges or resources through a third party. In many Arab organisations *wasta* plays an important role in hiring and promotion decisions. In addition, *wasta* is used to improve the chances of an individual with poor qualifications being hired; this is because a person with strong *wasta* may be favoured over a person who is more qualified but does not have *wasta*. According to Tlaiss and Kauser (2011) *wasta* is a widespread phenomenon in the culture of the Arab countries and the Middle East, and is principally based on the influence of family and social relationships, which are carried over into the workplace.

Hutchings and Weir (2006, p.143) indicated that “*Wasta involves social networks of interpersonal connections rooted in family and kinship ties, implicating the exercise of power, influence, and information sharing through social and politico-business networks. It is intrinsic to the operation of many valuable social processes, central to the transmission of knowledge and the creation of opportunity*”. In terms of nepotism, Abdulla et al. (1998, p. 555) defined it as “*the employment of relatives in the same organisation or the use of family influence to employ them in other organisations*”. Arasli et al. (2006) investigated the potential effects of nepotism on human resource management (HRM) practices in Northern Cyprus and found it to have a significant negative effect on HRM, job satisfaction, and organisational performance.

*Wasta* is commonly used in the business environment in Libya to reflect the role and power ingrained in social relationships, family and friendship in Libyan society. *Wasta* has a negative meaning among certain people who frequently have cause to complain about it because of its negative effects on organisations and society (Elfaituri, 2003). It is also possible that this phenomenon may have a negative impact on the implementation of TQM in the banks studied, reflecting a weakness in the organisational culture at the Libyan banks. The semi-structured



interview with managers and supervisors confirmed that such phenomenon (wasta and nepotism) were a barrier in the cultural environment, particularly where cooperation is required for the implementation and adaptation of a TQM philosophy. They pointed to the role of wasta (interpersonal connections) and nepotism as affecting TQM implementation, suggesting that it might affect the whole administrative process as designed to provide services to customer.

One quality manager stated:

*“Wasta and nepotism are used in the work environment by some managers in top management positions when deciding on the recruitment of relatives and friends as well as their status in terms of leadership positions, promotions, and other benefits which they do not deserve”.*

And he added *“also certain customers come to the bank and expect to be able to complete any procedures quickly by help from their friends or their relatives”.*

The impact of wasta gives rise to concerns over fairness in organisational settings; it is a form of corruption associated with favouritism, and nepotism, one that would be deemed unacceptable in Western organisations (Tlaiss and Kauser, 2010), as well as being contrary to Islamic values. According to Metcalfe (2006) due to family ties, and strong social relations in Arabic countries, wasta and nepotism arise in informal relationships in organisations. Hooker (2009) also stated that wasta has a significant impact on the work environment; its influence extends through networks of friends and extended families affecting employees. Wasta is often seen as a form of corruption, especially when intermediaries request remuneration for their services. He added that wasta is often used to get a good job or access to a business an opportunity. In addition, Tlaiss and Kauser (2010) found that wasta as the salient feature in Lebanese organisations, affecting decisions related to career advancement, promotion and rewards systems; leading to unfair regulatory practices. They also found that wasta can be an obstacle for some people who are then unable to get a job or career advancement, especially if they come from a lower social class. This

is supported by Mohamad and Mohamed (2011), who found that *wasta* plays an important role in appointments, promotions and rewards at work, and leads to inequality between employees, and lower level organisational performance; thus, *wasta* is a form of favouritism. Therefore, Whiteoak et al. (2006) suggested in his study that organisations should promote transparent systems, leader selection, and rewards systems to overcome *wasta* and nepotism, and to achieve justice among workers in UAE organisations.

TQM must fit into the existing culture in order to succeed. Therefore, it is also the case that organisational culture may change when an organisation begins the implementation of TQM (Lewis, 1996). According to Lagrosen (2003), successful implementation of TQM requires changes to arise affecting organisational values and attitudes which will then become consistent with the TQM values. This is confirmed by Prajogo and McDermott (2005), who stated that prior to implementing a TQM philosophy into an organisation it is important to understand the dominant organisational culture within it in order to provide more reliable data for managing the implementation process, and to identify priorities for action. Organisational cultural change is not an easy task to undertake, however by using the Competing Value Framework (CVF) organisations can undertake an assessment of their current position and gain a clear picture of what changes are likely to be necessary to support a TQM philosophy. Therefore, it is crucial to create an organisational culture which is appropriate for the implementation of TQM and also conducive to continuous improvement within the organisation.

Therefore, organisational culture is a key factor in the implementation of TQM, and such implementation depends on the compatibility of TQM, the components and the elements of organisational culture in the organisation, and is therefore essential for the implementation of quality management that changes in regards to the values and organisational culture as developed to complement TQM principles.

Finally, it could be argued that the prevailing organisational culture should be compatible with the values and principles of TQM philosophy. As mentioned above, organisational culture should be considered when identifying the factors affecting successful TQM implementation. TQM basically requires a cultural change by all employees within an organisation. The best results of TQM can be achieved when open and cooperative cultures are created and supported by top management and employees, based on teamwork and customer focus. Furthermore, managers should encourage an innovative culture and devise suitable policies promoting efforts directed towards continuous improvement. In addition, there should be an emphasis place on continuous learning and training, which induces a positive culture to emerge to enhance and develop skills related to the employees' beliefs and values, and behaviour modification, which helps with TQM implementation within organisations.

#### **7.5 Third objective: To identify the main barriers to TQM implementation in the Libyan banks**

This section provides the findings with regards to the barriers that may hinder the implementation of TQM. The results of the questionnaire revealed that the barriers which prevented organisations achieving a high level of TQM implementation in Libyan banks were: a lack of top management commitment; a lack of training programs relating to the quality management; and weakness focus on customer satisfaction and expectations. These barriers achieved the highest mean score in this study. The questionnaire results also revealed that the lowest score for the barriers which prevented TQM implementation in Libyan banks were; poor attention to a quality culture, lack of use of benchmarking, and employees resisting change to the existing system within the organisation.

During the interviews, the respondents revealed the major barriers preventing TQM implementation within their banks included:

1. Lack of top management commitment and support;
2. Culture (employees and customers);
3. Speed of implementation of TQM, without sufficient planning and preparation.

The interviews revealed that culture was one of the obstacles hindering TQM implementation; this factor was considered to exert pressure at high levels within the Libyan banks.

*“Although we apply a TQM philosophy, our employees still have negative perceptions about the need for TQM in the bank. Also we suffer from the difficulty of dealing with some clients and customers, who have the culture of the tribe and family, and who seek to use these relationships when undertaking any procedures or operations with the bank”.*

Some organisations find it difficult to exchange the culture of their employees for the application of modern methods; often because they prefer to retain a traditional way of working rather than choosing to adapt to the adoption of a new culture. One manager mentioned that the culture of change and the lack of patience were not easy cultural shifts for employees to adapt to. He said:

*“The culture of resisting new ideas and ways of doing things is the most difficult to change, so it needs patience and takes a long time to be changed this behaviour”.*

In the same vein, one supervisor declared that:

*“Creating a quality culture was the main difficulty during the stages of the implementation”.*

Also the interviews disclosed the important point that the implementation of TQM could be undertaken too rapidly, and without sufficient planning and preparation, as one manager said:

*“We started the programme, but most employees did not have enough knowledge to follow it through, and after the implementation they discovered that there had not been sufficient planning and preparation for TQM implementation, so we faced many problems during the implementation stages. Therefore, we should take a long time to study the plans and consider completely, those aspects which are likely to have a positive and negative influence on TQM before implementation”.*

One supervisor stated, with respect to the introduction of TQM practices;

*“I think that there was a rapid implementation of TQM without enough preparation, and without sufficient planning for implementation.”*

Successful TQM implementation demands long-term strategic planning. Quality gurus always stress the importance of strategic planning when preparing for the integration of TQM practices within an organisation (Deming, 1986; Oakland, 1993; Sureshchandar et al., 2001).

These obstacles and barriers might be similar to the obstacles facing organisations in other developing countries, particularly, other Arab countries. Al-khalifa and Aspinwall (2000) stated that the main difficulties in implementing TQM in Qatar were lack of top management commitment and support, lack of empowerment at lower employee level and a negative work climate. Al-Marri et al. (2007) found that TQM was a relatively new notion within the UAE. They also found that there was poor knowledge of the key factors influencing the process of TQM implementation. Abdolshah and Abdolshah (2011) studied barriers to the successful implementation of TQM in Iranian organisations and found the most important obstacles and barriers to the successful implementation of TQM to be lack of management commitment, resource problems, and the failure to use the appropriate framework for TQM. Bhat and Rajashekhar (2009) in a study conducted in India, found that the most important TQM barriers were employees resistant to change, no benchmarking of other companies' practices, lack of customer orientation, lack of planning for quality, lack of total involvement, lack of management commitment, and lack of resources. More recently, Talib et al. (2011b) studied TQM barriers in service organisations, and also found the barriers to be lack of top management commitment, lack of continuous improvement culture, employees' resistance to change, lack of coordination between departments, and high turnover at management level. In addition, Rad (2005) mentioned certain barriers preventing successful TQM implementation in Iran. Human resources barriers

included lack of effective and efficient employees for the implementation of TQM, and a lack of reward and recognition for developing employees' participation in TQM activities. In addition, there were strategic problems, which included a lack of planning and long-term policies, obscure organisational policies and objectives with regard to the implementation of TQM, inflexibility of the organisation towards environment and technological changes.

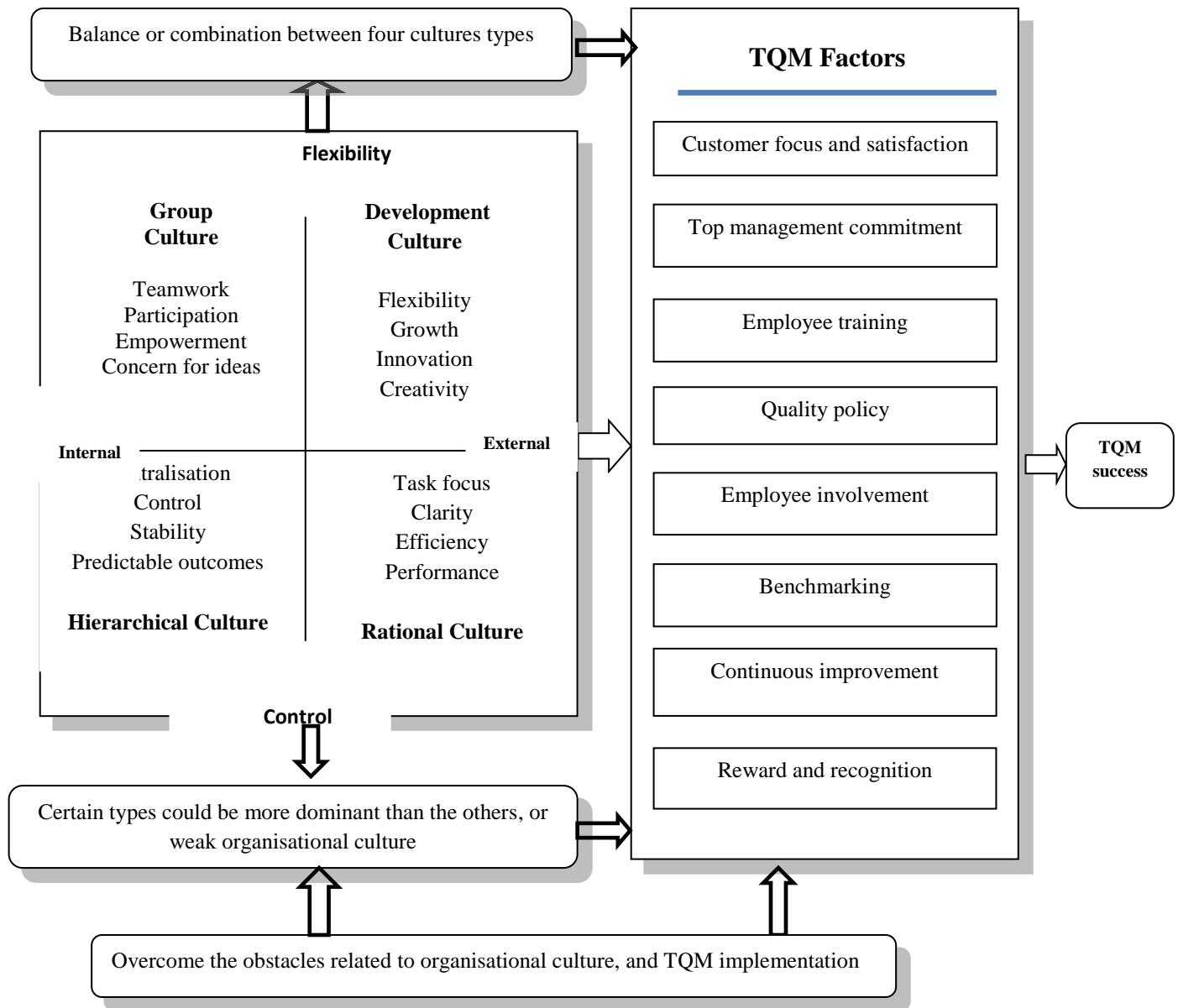
Implementing TQM in the Libyan banks surveyed is clearly not easy and the process for achieving success is likely to be lengthy, with the necessity to overcome a range of obstacles and problems from preparation through to implementation. To avoid these obstacles or to try to minimise them, there is a need to review and address them.

This study showed that the implementation level of TQM within the Libyan banks surveyed is still low. This low level might result from those obstacles and barriers already mentioned, in addition, they may also be caused by the effect of negative organisational culture, as mentioned above. Therefore, top management must be able to try to overcome these obstacles and barriers through planning and practical solutions that are compatible with culture, to raise the level of implementation. This provides a useful framework for evaluating the relative significance of management-related obstacles to TQM success, and, consequently, for providing direction and guidance in developing strategies for quality management to achieve a high level of implementation. In addition, effective implementation of TQM requires an organisational environment that encourages open communication and employee involvement to facilitate change and to provide the resources necessary for continuous improvement. Total quality management also needs to be integrated throughout the entirety of an organisation's processes and functions. This requires changing people's culture, behaviour, attitudes and working practices in a number of ways.

## **7.6 Proposed model for successful TQM implementation in the Libyan banking and services sector**

The model proposed emerged as a consequence of the research findings, which were obtained through quantitative and qualitative methods providing an assessment of various factors relating to TQM implementation and the influence of organisational culture on TQM implementation in Libyan banks, and an investigation of related literature (Hofstede, 2005; Denison and Spreitzer, 1991; Badri et al, 1995; Tata and Prasad, 1998; Cameron and Quinn, 2006; McDermott and Stock, 1999; Al-khalifa and Aspinwall, 2000; Baidoun, 2004; Al-Marri et al., 2007; Salaheldin and Mukhalalati, 2009; Salaheldin, 2009). This model proposes that the success of TQM can be enhanced when an organisation's culture is balanced between the four types of organisational culture that have been described by the competing value framework (CVF), (as has been mentioned in section 4.5.3). This was confirmed by Denison and Spreitzer (1991), and Cameron and Quinn, (2006), who stressed that the four cultures should be viewed as ideal types. Therefore, they emphasised the need to incorporate and balance all four cultural types to represent the capacity to respond to a wide set of environmental conditions within an organisation, although it may be the case that one type is more dominant than the others (McDermott and Stock, 1999; Quinn and Spreitzer, 1991). Fundamentally, this model links the eight factors of TQM that were identified in this study, and the types of organisational culture. Therefore, the assumptions of this model were developed based on the findings of this study, and the literature. The model provides a comprehensive foundation for successful TQM implementation at Libyan banks because it takes organisational culture into consideration. This model may be circulated to the service sector in Libya, where the "soft" factors of TQM are more applicable in the service sectors (as has been mentioned in section 3.7). Figure 7.1 illustrates the model for successful TQM implementation

**Figure 7.1: The Proposed Model for successful TQM implementation**



In conclusion, the successful implementation of TQM within the Libyan context should be achieved by a gradual approach, based on progression and the selection of appropriate management actions. In addition, it can be noted that each organisation can overcome the barriers and difficulties related to organisational culture and TQM implementation by taking administrative procedures to address them.



## 7.7 Chapter summary

This chapter has presented a discussion of the findings that have emerged from analysing the questionnaire data in chapter five, and the semi-structured interviews, which link the findings to the literature of TQM, and organisational culture. The findings defined by the first objective indicated a low level of TQM implementation in Libyan banks. This low level of implementation was mainly due to low top management commitment and limited focus on customers and their satisfaction; lack of quality policy ; poor employee training; low levels of employee involvement; insufficient or ineffective reward and recognition; a lack of benchmarking; and a failure to commit to continuous improvement. The second objective shows that two types of organisational culture (group culture and developmental culture) had a positive effect on TQM implementation at the Libyan banks. In addition, the third objective aimed to identify the barriers that affected the level of TQM implementation in the Libyan banks. The findings from the questionnaire and interviews regarding barriers to implementation of TQM were:

1. Lack of top management commitment;
2. Lack of training programs relating to the quality management;
3. Weakness of focus on customer satisfaction and expectations.
4. Culture (employees and customers).
5. Speed of the implementation of TQM, in light of inadequate planning or preparation.

Furthermore, based on these findings, a model is proposed for the success of TQM implementation in the Libyan banks or service sector. The model provides a comprehensive foundation for successful TQM implementation in Libyan banks because it takes organisational culture into consideration. Research conclusions, contribution, recommendations, limitations and future research avenues will be discussed in detail in the next chapter.

## **Chapter Eight: Conclusions, Contributions and Recommendations**

### **8.1 Introduction**

The aim of this concluding chapter is to set out the main findings of the study, which have emerged in the preceding chapters. This chapter also makes recommendations to improve the implementation of TQM in the Libyan banking industry, and also offers some recommendations for further research, as well as establishing the study's contribution to knowledge in this area.

### **8.2 Conclusions**

Many organisations have realised that TQM is the way of improving the quality of goods and services, along with improving productivity and lowering costs. This requires a long-term commitment by top management that involves working with customers and suppliers to improve performance; education and training; developing the right organisational culture and climate; developing accurate and responsive management systems; and establishing targets for quality improvement.

Many organisations in developed and developing countries have started to implement TQM as a way of gaining customer satisfaction and reducing costs. However, in many cases, these organisations have failed in their attempts and few have gained the benefits of TQM implementation. These failures were not caused because there was a basic flaw in the principles of TQM, but because an effective system or supportive culture was not created to execute the principles properly. They could also be attributed to a lack of understanding of what TQM means for each unique organisation or society. A large number of organisations in developing countries want to follow western organisations by applying advanced quality initiatives or TQM to better enable them to compete in today's global markets. However, before they do, they should consider the uniqueness of their existing culture to avoid making similar mistakes. Quality improvement

programmes for developing countries should be tailored to their specific conditions, taking account of their existing knowledge of TQM, organisational culture, and the barriers that could face an organisation during the process of implementation of TQM.

The objectives of this study were to assess the level of TQM implementation, and explore the influence of organisational culture on TQM implementation in the Libyan banks. In addition, this research identifies the main barriers that affect the implementation of TQM in Libyan banks. In order to achieve this, the following three objectives were formulated:

1. To determine the level of TQM implementation in Libyan banks.
2. To explore the influence of organisational culture types on TQM implementation in Libyan banks.
3. To identify the main barriers, if any, which affect the implementation of TQM in Libyan banks.

As a means of achieving the objectives of this study, the following three questions were formulated:

1. What is the level of the implementation of TQM in Libyan banks?
2. Which types of organisational culture have an influence on TQM factors in Libyan banks?
3. What are the main barriers, if any, which affects the implementation of TQM in the Libyan banking sector?

This study used questionnaires and semi-structured interviews to achieve the objectives of the research. The questionnaire was utilised to determining the level of TQM implementation in the

Libyan banks, and to identify the causal relationships between factors, so as to explore the influence of organisational culture on TQM implementation.

Semi-structured interviews also were used with managers and supervisors to gain more information to understand some additional issues about TQM practice, organisational culture, and the main barriers that affect the implementation of TQM. The major findings from the questionnaire and semi-structured interviews are summarised below to answer the questions set by the study:

### **8.2.1 First question: What is the level of the implementation of TQM in the Libyan banks?**

This first objective of this study was to evaluate the level of TQM implementation in Libyan banks. To achieve this, descriptive statistics were used to analyse the data gathered from 455 respondents consisting of general managers, quality managers, supervisors and employees in Libyan Banks, to evaluate the level of TQM implementation in the Libyan banks. Factor analysis was carried out to reduce the large number of variables of TQM, and to test the construct validity of research measures. Eight out of ten factors were identified by factor analysis for TQM implementation in the Libyan banks. These factors were ranked as follows: customer focus and satisfaction, top management commitment, employee training, quality policy, employee involvement, benchmarking, continuous improvement, and reward and recognition. In addition, hypotheses were tested through the Wilcoxon test for the same purpose. The overall conclusion is that the level of TQM implementation in the Libyan banks was low, which was proven through the findings from the questionnaire, as well as findings from the interviews, which showed that there were weaknesses in the implementation of TQM, and that Libyan banks had not achieved the benefits and goals of the implementation of TQM. The following is a summary of the results of the evaluation of TQM factors in Libyan banks.

### **1. Top management commitment**

It was concluded that there was a low level of top management commitment towards TQM implementation in the Libyan banks. Thus, it could be argued that top management commitment appears to be a limiting factor in achieving progress towards a high level of TQM implementation in Libyan banks. This result revealed that most Libyan banks were still operating using a traditional and bureaucratic management style.

### **2. Focus on customer and satisfaction**

This study revealed that customer focus and satisfaction was the most important factor in the Libyan banks, having the largest proportion of the total variance, and explaining 24.708 % of total variance. The summary of the findings related to TQM implementation in terms of customer focus and satisfaction indicated a low level of customer focus and satisfaction in Libyan banks. The Libyan banks appear to devote little attention to customers and their satisfaction.

### **3. Quality policy**

This study found that there was an absence of the quality policy and level of planning necessary for successful TQM implementation in Libyan banks. The study also revealed that quality efforts failed because quality policy were not clearly communicated by all the banks' branches, and many problems were related to the ambiguity of the quality policy.

### **4. Employee training**

This study revealed that poor employee training was a factor impeding, to a high degree, the level of TQM implementation in the Libyan banks. This can be seen as an indication of a lack of commitment and seriousness from the banks towards the development of a quality culture. The

results also indicated that training methods were not well enough designed to cover the TQM implementation process, and the training needs were also not well defined.

### **5. Employee involvement**

The results showed that employee involvement in TQM implementation was found to be at a low level amongst Libyan banks. The findings revealed that the departments in Libyan banks did not encourage their employees to give suggestions, were not involved in decision-making in reference to their day-to-day activities, and were not involved in quality-related activities; thus managers did not play a contributory role to promote the achievement of successful employee involvement in successful implementation of TQM.

### **6. Reward and recognition**

It was concluded that there was a low level of appropriate reward and recognition systems in the Libyan banks. It could also be concluded that the majority of the respondents shared the same opinion in this respect, as the results indicated that management in general did not encourage, reward or even evaluate their employees' suggestions with regards to quality matters; furthermore, rewards were often given to those who did not deserve a reward, or were otherwise distributed unfairly.

### **7. Benchmarking**

It was concluded that there was a low level of benchmarking in the Libyan banking sector, and the interviews with the respondents confirmed this impression; most of the interview respondents did not refer to the use of self-assessment tools to track problems and correct deviations in the implementation and effectiveness of the system. In addition, the results revealed that the banks did not use benchmarking to measure their situation in comparison with other banks inside and outside Libya.

## **8. Continuous improvement**

The findings show that there were low levels of continuous improvement in the operations of Libyan banks, indicating a low level of TQM implementation. From the semi-structured interviews, some respondents revealed that there had been an improvement in the quality of services after the entry of a foreign partner in the form of an investor, which led to a change in banking operations and an improvement in the quality of services. The banks also were reportedly trying to implement continuous improvement through employee training and by updating technology, but they nevertheless continued to suffer from a slow pace of improvement.

### **8.2.2 Second question: Which types of organisational culture have an influence on TQM factors in the Libyan banks?**

Organisational culture is an essential factor in adopting any successful change in an organisation. The success of TQM implementation will depend, to a large extent, on organisational culture, thus it is essential to take it into consideration in the implementation of TQM (Noronha, 2003; Cameron and Quinn 2006). Cameron and Quinn (2006) have argued that organisational culture is important because plans for any changes adopted not including organisational culture would have unforeseen and largely negative consequences. In other words, knowledge of an existing organisational culture is the basis for cultural change. Implementing cultural change within an organisation is recognised as one of the primary conditions for the TQM to flourish (Oakland and Porter 1994; Van Donk and Sanders 1993). Several studies have highlighted the fact that appropriate organisational culture drives TQM success (Kujala and Lillrank, 2004; Katz et al., 1998; Tata and Prasad, 1998; Powell, 1995; Prajogo and McDormant, 2005; Zu et al., 2009). Crosby (1979) acknowledged that cultural change is an essential component in any quality improvement strategy. Powell (1995) promotes the importance of cultural aspects of TQM and also mentions the absolute necessity of TQM practices being implemented in a favourable

environment (i.e. culture) to encourage open communication. Indeed, he stated that this was imperative for TQM's success.

According to Lagrosen (2003) the successful implementation of TQM requires changes to organisational values and attitudes, so as to become consistent with TQM values. In the same vein, Kujala and Lillrank (2004) mentioned that TQM programs are more likely to succeed if the prevailing organisational culture is compatible with the values and basic assumptions proposed by the TQM discipline. The success of TQM as an agent of organisational change depends largely on an organisation's culture. The successful implementation of TQM requires significant changes to values, attitudes and the culture of an organisation. Many organisations go to great lengths to shape their cultures as a means of improving organisational effectiveness (Deal and Kennedy, 1999).

To achieve this objective, the competing value framework (CVF) tested by Denison and Spreitzer (1991) was selected for this study, to explore the influence of organisational culture types on TQM implementation factors in the Libyan banks. Therefore, multiple regression was used to test the influence of organisational culture types (developmental culture, hierarchical culture, group culture, and rational culture) on all TQM implementation factors. The backward elimination method was therefore used to find the best model of regression to examine the main hypothesis, and sub-hypotheses concerning the influence of independent (developmental culture, hierarchical culture, group culture, and rational culture) on dependent variables (TQM implementation factors). The backward elimination procedure starts with a regression equation including all the independent variables, and then deletes independent variables that do not make a significant contribution to prediction variables. In addition, the Kruskal-Wallis test was used to test whether there were any differences in organisational culture types among the respondents from the three banks that were surveyed. Moreover, the Kruskal-Wallis test also was used to test whether there



were any differences in organisational culture types among the respondents from the branches of each bank.

The findings showed that group culture and developmental culture had a positive influence on all TQM implementation factors. In addition, the findings showed that hierarchical culture and rational culture did not have any influence on TQM implementation factors in the Libyan banks. Hence, it is concluded that  $H_{1a}$ , and  $H_{1c}$  are accepted, indicating that group culture had a positive influence on all TQM factors in the Libyan banks, and developmental culture had a positive influence on only six factors of TQM, which were: customer focus and satisfaction, top management commitment, employee training, quality policy, employee involvement, and benchmarking. However, developmental culture did not have any influence on continuous improvement and reward and recognition, consequently  $H_{1a}$ , is rejected for those factors. In addition,  $H_{1b}$ , and  $H_{1d}$  are rejected, meaning that hierarchical culture and rational culture did not have any influence on all TQM factors in the Libyan banks.

Moreover, there was a phenomenon related to the organisational environment that emerged from the interviews, which were *wasta* and nepotism. This phenomenon was considered to have a negative impact on the implementation of TQM, the level of the quality of the services, and organisational performance in the Libyan banks.

### **8.2.3 Third question: What are the main barriers, if any, which affects the implementation of TQM in the Libyan banking sector?**

Successful TQM implementation requires a thorough understanding of critical success factors, the barriers to achieving these factors, and managerial tools and techniques to overcome these barriers (Mellahi and Eyuboglu, 2001; Moghaddam and Moballeghi, 2008). Despite the great benefits to be gained from the implementation of TQM, several organisations that have faced

difficulties in the implementation of TQM and that have not achieved the expected outcomes (Ngai and Cheng, 1997; Salegna and Fazel, 2000). Many studies have investigated the barriers that may effect, or lead to the failure of the implementation of TQM in organisations. This failure may not be due to weaknesses in the TQM concepts itself, but may rather be due to a failure in paying sufficient attention to the cultural and structural variables particular to an organisation, or even country, that could influence the implementation of TQM. In addition, many barriers that hamper or effect on TQM implementation whether in developed or developing countries have been mentioned in the TQM literature (as mentioned in chapter 4).

To achieve this objective, twelve barriers were listed from the literature to identify the main barriers that affected the success of TQM implementation in the Libyan banks. These factors were measured by questions built on a four–point scale: (0) not a barrier, (1) a weak barrier, (2) a barrier, (3) a strong barrier. The findings showed that there were a number of barriers which affected on the level of TQM implementation in Libyan banks. The three most important barriers identified in this study were:

1. Lack of top management commitment to TQM implementation;
2. Lack of training programs relating to the quality management;
3. A weak focus on customer satisfaction and customer expectations.

Moreover, the interviews also revealed that there were a number of barriers which affected the implementation of TQM in Libyan banks: most importantly, a lack of top management commitment, followed by: culture (employees and customers); and the speed of the implementation of TQM without sufficient planning and preparation.

### **8.3 Research Contributions to knowledge**

The study contributed towards a better understanding of the organisational behaviour in the Libyan banks. The study attempted to add to the existing literature on TQM, and organisational culture in the following aspects:

1. The results that emerged from this study are considered to offer an important contribution to the field of TQM in reference to organisational culture. In addition, this study is the first which has evaluated and measured the levels of TQM implementation in Libyan banks, and explored the influence of organisational culture on TQM implementation within one of the Arabic countries in North Africa. Furthermore, this study provided empirical evidence on the organisational culture prevailing within the Libyan banks, and its impact on the implementation of TQM, and so enlarges understanding of the current situation with regards to organisational behaviour in Libyan banks.

2. A model has been derived from the findings of this study and the literature. This proposed model provides a framework for the successful implementation of TQM in Libyan banks, or in banks wishing to implement TQM. This model can be also applied to the Libyan services sector in general, where it can be used to manage the “soft” factors of TQM, which are more applicable to service sectors (as has been mentioned in section 3.7). The organisations in the services sector are also subject to the same environmental conditions and culture. The framework that has been prepared enables organisations to undertake a more holistic approach to TQM philosophy when implementing TQM initiatives; this would be achieved by taking organisational culture into account when initiating the process of implementing TQM.

3. This study may be among the few studies which combine between TQM implementation and organisational culture. Indeed, many studies have been conducted to identify the critical success

factors associated with TQM only, but few have studied the influence of organisational culture on TQM implementation, particularly in an Arab country. Moreover, this study, as far as the researcher aware, is conducted in an environment (Libyan context) where no previous research efforts have been made to investigate the issue and it therefore, represents originality in this field .Therefore, this research attempts to fill a part of gap in the literature on TQM, and organisational culture in Libya, and it is expected to open the door to other studies further investigating this field in Libyan and Arab countries.

4. A further contribution of this study confirmed that attempts to implement TQM in Arab countries, especially in Libya, should take account of the influence of organisational culture within organisations before implementation. This study shows that these cultures have a role in, and an influence on, the implementation of TQM in Libya as an Arabic country. Thus this study has been able to identify certain of the main barriers which have led to low levels of implementation of TQM in Libyan banks. This provided a useful framework to the Libyan banks for evaluating the relative significance of management-related barriers to TQM success, and, consequently, for providing direction and guidance in developing strategies for quality management to achieve a high level of implementation and improvement across their services; overcoming these barriers and paying more attention to TQM implementation.

5. The fifth contribution is that new knowledge has been added by this study in terms of TQM, and organisational culture. The findings of this study identified eight factors of TQM implementation in the Libyan banks. Thus, researchers will be able to use the TQM scale to develop total quality management theory in the service sector.

#### **8.4 Limitations of the study**

Every study has its own limitations and it is important to consider these as they have the potential to impact on the conclusions that can be drawn. In the case of this study, the following were the major limitations:

1. This study was limited to three of the Libyan commercial banks, which had implemented a TQM philosophy over a period of more than three years.
2. The limitations of time and financial resources represent constraints for most researchers and this study was no exception.

#### **8.5 Practical recommendations for Libyan banks**

Based upon the conclusions, a set of practical recommendations, which might be of use in raising the level implementation of TQM by Libyan banks, is provided. The following are the main recommendations:

1. Top management should recognise that TQM can achieve tangible business advantages, and so strive to achieve the several benefits of TQM implementation to benefit the organisation. This belief should be the driving force informing top management commitment and involvement, which should then be achieved through the development of a comprehensive quality policy, promoting a quality culture among employees, and improving their skills, as-well-as providing a clear strategic vision for the organisation.
2. Top management need to be fully committed and supportive of quality management efforts. Leaders must create a vision and inspire their employees to achieve the organisation's objectives, and change its culture, looking towards a process of continuous improvement.

3. A cultural and behavioural shift in the mind-set of management in the Libyan banks, especially top management, is necessary if Libyan banks want to successfully implement TQM with high levels of implementation.
4. A focus on customer satisfaction is a vital factor in TQM implementation; thus, Libyan banks require a better understanding of their customers' needs and expectations. They also should pay more attention to how to satisfy these customers.
5. Libyan banks should determine the training needs of their employees systematically, and put more emphasis on training in TQM for employees at all levels, which will lead to continuous improvement in their processes.
6. Employee involvement is an important factor in the implementation of TQM. Libyan banks should pay more attention to promoting employee involvement in the decision-making process, and delegation of authority and responsibilities. This will make all employees feel they have the responsibility and authority to participate in decision making and problem solving at the appropriate operating levels.
7. Libyan banks should establish an appropriate reward and recognition system in accordance with their needs. There must be clear criteria outlined to define rewards, and these criteria should be known to all staff members. Rewards should be given in various forms, monetary and non-monetary, and these can take the form of a letter of appreciation, additional leave, and an opportunity to attend a training course, money, gifts, prizes or whatever the implementers are likely to appreciate.
8. Libyan banks should be encouraged to appreciate the importance of effective communication across functions and work units, focusing on increasing and encouraging communication between

different departments, sections and units to increase efficiency in the workplace and meet customer needs. It is ideal to adopt information systems and new technology for this purpose

9. Libyan banks should develop methods of benchmarking, which are an important tool for the continuous improvement of quality, and increase training in the field of benchmarking to achieve business excellence.

10. Continuous improvement is an important factor in TQM. The banks need to give this factor further consideration to effect a constant improvement to products, services, and organisational systems and so yield improved value to customers.

11. Libyan banks should appreciate that effective implementation of TQM requires an organisational culture that encourages open communication and employee involvement to facilitate change and provides the resources necessary for continuous improvement. Total quality management also needs to be integrated throughout an organisation's processes and functions. This requires a change in the culture, behaviour, attitudes and working practices of employees.

12. Managers in Libyan banks should also appreciate that implementing TQM takes time, effort and requires change throughout the entire organisation. In this context, managers need to convince the staff that real benefits can be obtained through the implementation of TQM as part of the organisation's business strategy.

13. The government can play an important role in building a quality environment by emphasising the importance of quality for the whole country, and by establishing an annual award for TQM. This will serve many purposes, such as encouraging continuous improvement, raising awareness of quality and eliminating the fear of change.

## **8.6 Recommendations for Further Research**

As with any piece of research work, there are several suggestions for further studies which concern both the methodology and issues related to their application. Based on this, the researcher believes that several avenues of future research can be pursued to better describe the factors which affect the implementation of TQM. The following suggestions for further studies are:

1. Future research efforts within the TQM field in other sectors (manufacturing, oil and gas, education, health, tourism, etc.) and their relationship with national and organisational culture are needed in Libya, and in other Arab countries, to further prove the veracity of the findings in this study.
2. An additional extension to this work would be to adopt different instruments and models for assessing organisational culture with TQM in other sectors.
3. A comprehensive study is needed to identify the barriers that effect TQM implementation in all the Libyan banks.
4. Further research is needed to explore the role of top management in order to find out why there has been a lack of commitment and support for quality initiatives to be successful.
5. The influence of the external environment should be studied in order to explore how it affects the style of management and the capability of TQM implementation.
6. Further research is needed to explore the role of government in building quality initiatives and nationwide competitiveness.



7. The proposed model in this study provides an opportunity for further empirical studies into the possibility of applying this model in the manufacturing sector and the oil industry in Libya, and in other Arab countries.

It is this researcher's hope that this study will inspire and encourage future researchers to extend its area of interest to other developing countries, enabling its findings to be more widely compared and evaluated.

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## Appendices

### Appendix A: The Study Questionnaire

#### **An assessment of TQM implementation, and the influence of national and organisational culture on TQM implementation in Libyan banks**

Dear Respondent

This survey forms part of My PhD research on the implementation of quality programs in the Libyan banking organisations. The primary aim of my research is to evaluate the implementation of Total Quality Management in Libyan banks, and to explore the influence of national and organisational culture on TQM implementation in Libyan banks.

All responses will be treated with the utmost confidence, the results of the survey will be used for research purposes only and no attempt will be made to identify an individual or organisation.

Please attempt to answer every question; there are no right or wrong answers. I am seeking your judgement or opinion only.

Thank you for your participation

For any enquires about the survey you can contact me on the following:

Ashref Elfaituri

Mobile phone: 0913626233

E-mail: s0612336@ connect.glos.ac.uk

## Part 1:

To help us classify your responses statistically, may we ask you a few questions about yourself and your organisation.

### Firstly: data about respondents

1. Gender:     Male             Female

2. Age     20-30     31-40     41-50     Over 51

### 3. Educational level

High School or equivalent     Bachelor degree     Master degree     PhD

### 4. Your current position

General manager     Middle management     TQM manager     Supervisor     Employee

### 5. Number of years of Experience in this bank

5-10 years             11- 15 years             16-20 year             21-25 years  
 26-30 years             more

### Secondly: data about bank

### 6. Bank ownership

Public sector             Private             Joint venture             other .....

7. Employee numbers:     Less than 100     100- 499     More than 500

8. Number of branches:     Less than 20     20- 40     more than 40

## Part 2

The following statements describe elements that constitute effective TQM. Choose a number between 1 and 5 to indicate the level of implementation that each factor has in making TQM implementation efforts successful in your Bank. Strongly disagree indicates that, in your opinion, your bank does not perform well in respect of that element. In contrast, a response of strongly agree indicates that you believe your bank performs very well in that element.

Please tick (√) in the box that best reflects your answer where

1= Strongly disagree      2= Disagree      3= Neither agree nor disagree  
4= Agree      5= Strongly agree

| 1  | Top management Commitment   | 1 | 2 | 3 | 4 | 5 |
|----|---|---|---|---|---|---|
| 1  | Senior management have clear vision toward quality, this guides all aspects of running our business.  |   |   |   |   |   |
| 2  | Senior executives are visibly and explicitly committed to quality.  |   |   |   |   |   |
| 3  | Top management allocates adequate resources and time for quality management efforts.  |   |   |   |   |   |
| 4  | Top management has a clear for quality vision (based on customer focus) and that the vision forms the basis for strategic planning and decision making. |   |   |   |   |   |
| 5  | Top managers often discuss the importance of quality at company meetings and give high priority to quality.   |   |   |   |   |   |
| 6  | Top managers support any change required in style or structure in order to promote the new culture.   |   |   |   |   |   |
| 2  | Customer focus and satisfaction   | 1 | 2 | 3 | 4 | 5 |
| 7  | In our bank there is comprehensive identification of customer needs and alignment of process to satisfy the needs.                                      |   |   |   |   |   |
| 8  | Your Bank collects extensive complaint information from customers, which are treated with top priority.   |   |   |   |   |   |
| 9  | The bank determines current and future customer requirements and expectation.   |   |   |   |   |   |
| 10 | Your bank uses customer surveys and feedback processes, and information from customer services in improving its processes and services.                 |   |   |   |   |   |
| 11 | All employees understand targets relating to customer satisfaction.   |   |   |   |   |   |
| 12 | The organization encourages employees to satisfy customers (Internal-External).   |   |   |   |   |   |
| 3  | Quality policy  | 1 | 2 | 3 | 4 | 5 |
| 13 | There is a general policy development and effective deployment of goals in the bank.  |   |   |   |   |   |
| 14 | TQM principles are used in reviewing the formulation and implementation of strategy.  |   |   |   |   |   |
| 15 | There is strategic quality planning of the long term quality journey.   |   |   |   |   |   |
| 16 | Quality policy is appropriate to the organisation and relies on to the continual improvement.   |   |   |   |   |   |
| 17 | Mission and business policy statements cover the whole business, and everyone understands them.   |   |   |   |   |   |
| 4  | Employee Training   | 1 | 2 | 3 | 4 | 5 |
| 18 | Training is regarded as one of the most important factors in improving quality.   |   |   |   |   |   |
| 19 | Training in the total quality concept is given to all employees in the organisation.  |   |   |   |   |   |
| 20 | Employees are trained to improve interactive skills (such as communication skills, effective meeting skills, and leadership skills).                    |   |   |   |   |   |
| 21 | Employees are trained in problem identification and problem solving techniques  |   |   |   |   |   |
| 22 | Seminars and workshops in quality issues are arranged for employees as part of an ongoing process.  |   |   |   |   |   |
| 23 | Training and education cover all of the workforce as part of an ongoing process.  |   |   |   |   |   |

| <b>5</b> | <b>Employee involvement</b>   | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
|----------|---|----------|----------|----------|----------|----------|
| 24       | The organisation encourages employees to suggest ideas for work improvement   |          |          |          |          |          |
| 25       | Employees are involved in decision-making in day-to-day activities  |          |          |          |          |          |
| 26       | The bank's goals and policies are communicated regularly to staff.  |          |          |          |          |          |
| 27       | In our bank most employees' suggestions are implemented.  |          |          |          |          |          |
| 28       | Employees are actively involved in quality-related activities.  |          |          |          |          |          |
| <b>6</b> | <b>Employee empowerment</b>   | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
| 29       | Employees are encouraged to accept responsibility for quality.  |          |          |          |          |          |
| 30       | Responsibility, authority and accountability are delegated as closely as possible to those performing the work.   |          |          |          |          |          |
| 31       | Employees are empowered to implement quality improvement efforts.   |          |          |          |          |          |
| 32       | Employees are given the necessary resources to solve any quality problems that arise  |          |          |          |          |          |
| <b>7</b> | <b>Reward and recognition</b>   | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
| 33       | There is appropriate reward and recognition for outstanding performance in the bank.  |          |          |          |          |          |
| 34       | There are insufficient opportunities for promotion.   |          |          |          |          |          |
| 35       | Management generally encourages, rewards, accepts, evaluates, and implements employees' suggestions in quality matters.   |          |          |          |          |          |
| 36       | Reward and recognition activities effectively stimulate employee commitment to quality improvement  |          |          |          |          |          |
| 37       | Employees and/or teams are recognised for achievements in quality improvement.  |          |          |          |          |          |
| <b>8</b> | <b>Communication and information system</b>   | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
| 38       | There is communication system inside the bank that allows easy communication between top management and employees and between customers and the bank.                         |          |          |          |          |          |
| 39       | There is a clear and consistent process for the communication of mission statement and objectives defining quality values, expectations and focus.                            |          |          |          |          |          |
| 40       | There is effective inter-communication between various levels.  |          |          |          |          |          |
| 41       | There is an advanced technological information system to support implementing quality management system.  |          |          |          |          |          |
| 42       | In our bank uses information systems to provide high quality data and information to employees in order to achieve high quality customer services.                            |          |          |          |          |          |
| <b>9</b> | <b>Benchmarking;</b>  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> |
| 43       | Benchmarking is used to identify the best procedures for improvement from other organisations with similar interests and goals.   |          |          |          |          |          |
| 44       | There is an emphasis on benchmarking the services and processes with respect to those of other banks.   |          |          |          |          |          |
| 45       | There is an emphasis on benchmarking the level of customer focus with those of other banks  |          |          |          |          |          |
| 46       | The organization uses benchmarking to identify the needs for change.  |          |          |          |          |          |
| 47       | There is emphasis on prevention of errors rather than correction after the fact.  |          |          |          |          |          |
| 48       | There is a use of self – assessment tools and other mechanisms to track and improve performance gaps in the implementation and effectiveness of system, process and practice. |          |          |          |          |          |

| 10 | Continuous improvement   | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 49 | In our bank emphasis on continuous improvement is applied in all operations and at all levels.   |   |   |   |   |   |
| 50 | A team approach is taken as a main feature to solve problems, and in decision making.            |   |   |   |   |   |
| 51 | Problem-solving and continuous improvement processes are based on facts and systematic analysis. |   |   |   |   |   |
| 52 | The bank builds its competitiveness on the basis of providing high quality services.             |   |   |   |   |   |
| 53 | All employees are trained to look for continuous improvement in their daily work.                |   |   |   |   |   |
| 54 | Quality improvement culture spreads across the organization's departments.                       |   |   |   |   |   |
| 55 | There is a focus on continuous improvement (never-ending improvement) in services.               |   |   |   |   |   |

### Part 3:

This part includes 16 statements aimed to explore the influence of organisational culture factors in the Libyan banking sector on TQM implementation.

**Please tick (√) in the box that best reflects your answer where:**  
**1= Strongly disagree      2= Disagree      3= Neither agree nor disagree**  
**4= Agree      5= Strongly agree**

|    | Developmental Culture  | 1        | 2        | 3        | 4        | 5        |
|----|--|----------|----------|----------|----------|----------|
| 1  | The bank is a very dynamic and entrepreneurial place. People are willing to take risks.                                      |          |          |          |          |          |
| 2  | Managers in the bank are risk-takers. They encourage employees to take risks and be innovative.                              |          |          |          |          |          |
| 3  | The glue that holds the bank together is commitment to innovation and development. There is an emphasis on being first.      |          |          |          |          |          |
| 4  | The bank emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.                       |          |          |          |          |          |
|    | <b>Hierarchical Culture</b>  | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>4</b> |
| 5  | The bank is a very controlled and structured place. Bureaucratic procedures generally govern what people do.                 |          |          |          |          |          |
| 6  | Managers in the bank are rule-enforcers. They expect employees to follow established rules, policies, and procedures.        |          |          |          |          |          |
| 7  | The glue that holds the bank together is formal rules and policies. People feel that following the rules is important.       |          |          |          |          |          |
| 8  | The bank emphasizes permanence and stability. Keeping things the same is important.  |          |          |          |          |          |
|    | <b>Group Culture</b>   |          |          |          |          |          |
| 9  | The management style in the bank is characterized by teamwork, and consensus.  |          |          |          |          |          |
| 10 | Managers in the bank are warm and caring. They seek to develop employees' full potential and act as their mentors or guides. |          |          |          |          |          |
| 11 | The glue that holds the bank together is loyalty and tradition. Commitment to this bank runs high.                           |          |          |          |          |          |
| 12 | The bank emphasizes human resources. High cohesion and morale in the organization are important.                             |          |          |          |          |          |



|    | <b>Rational Culture</b>  | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 13 | Managers in the bank are coordinators and coaches. They help employees meet the facility's goals and objectives. |   |   |   |   |   |
| 14 | The glue that holds the bank together is the emphasis on tasks and goal accomplishment.                          |   |   |   |   |   |
| 15 | The bank emphasizes competitive actions and achievement. Measurable goals are important                          |   |   |   |   |   |
| 16 | The bank defines success on the basis of efficiency. Dependable delivery, and low -cost are critical.            |   |   |   |   |   |

**Part 4:**

Using a scale from 0 to 3, give your assessment of the extent to which each of the following statements is a barrier or not barrier:

**0= not barrier                      1= weak barrier                      2= a barrier                      3= strong barrier**

- Weakness of attention to quality culture.
- Employees resist change to the existing system in the organisation.
- There is a lack of training programs relating to the quality management system.
- Lack of top management commitment to TQM implementation.
- Weakness of focusing on customer satisfaction and expectations.
- Weakness of commitment to quality strategy requirements.
- Lack of a motivation and reward system.
- Lack of use of quality measurement and benchmarking.
- Poor organisational communication.
- Ineffective communication between the organisation and its customers.
- Inefficient information system used in bank.
- There is a lack of understanding of the benefits of TQM.

Others .....

If you would like to make any further comments or suggestions please use the space below:

.....

.....

.....

.....

**Thank you very much for your participation**

## Appendix B: University Letter



University of Garyounis  
Faculty of Economics  
Benghazi – Libya  
Reference Number: 13826  
Date: 01/ 08/ 2010

To Whom It May Concern

This is to confirm that Mr. Ashref Elfaituri is one of the Libyan sponsored students who are studying abroad for the degree of PhD. Mr. Elfaituri studying “An evaluation of TQM implementation and its relationship to national and organisational culture in Libya banks” is seeking assistance in obtaining the necessary information required for his research. We very much appreciate your cooperation in giving him access to the required information during the period of conducting his fieldwork in the Libyan banks. All the collected data will only be used by the researcher for the purposes of scientific research and none will have access to the revealed information except the researcher.

Your cooperation is very much appreciated

Yours faithfully,

Dr. Fakher Muftah Buferna  
Head of the Graduate Studies and Training Office  
Faculty of Economics/ Garyounis University  
Benghazi – Libya  
Tel: 00218612228825

**Appendix C: Best bank award (2008)**

This is to certify that  
**Al-Wahda Bank**  
was awarded  
**Best Bank - Libya**  
in the *Global Finance*  
World's Best Bank Awards, 2008



**GLOBAL  
FINANCE**

A handwritten signature in black ink, appearing to read "Joe Giarraputo".

Joseph D. Giarraputo, President and Publisher

## Appendix D: Regression Analysis Results

### Regression

**Variables Entered/Removed<sup>d</sup>**

| Model | Variables Entered   | Variables Removed    | Method  |
|-------|---|----------------------|---|
| 1     | Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture <sup>a</sup> |                      | Enter   |
| 2     |   | Rational Culture     | Backward (criterion: Probability of F-to-remove >= .100). |
| 3     |   | Hierarchical Culture | Backward (criterion: Probability of F-to-remove >= .100). |

a. All requested variables entered.

b. Dependent Variable: 1- Top management commitment

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .654 <sup>a</sup> | .428     | .423              | .60819                     |
| 2     | .654 <sup>b</sup> | .428     | .424              | .60753                     |
| 3     | .654 <sup>c</sup> | .427     | .425              | .60697                     |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

**ANOVA<sup>d</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 124.406        | 4   | 31.101      | 84.082  | .000 <sup>a</sup> |
|       | Residual   | 166.453        | 450 | .370        |         |                   |
|       | Total      | 290.858        | 454 |             |         |                   |
| 2     | Regression | 124.397        | 3   | 41.466      | 112.345 | .000 <sup>b</sup> |
|       | Residual   | 166.461        | 451 | .369        |         |                   |
|       | Total      | 290.858        | 454 |             |         |                   |
| 3     | Regression | 124.336        | 2   | 62.168      | 168.747 | .000 <sup>c</sup> |
|       | Residual   | 166.522        | 452 | .368        |         |                   |
|       | Total      | 290.858        | 454 |             |         |                   |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

d. Dependent Variable: 1- Top management commitment

**Coefficients<sup>a</sup>**

| Model |                       | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. | Collinearity Statistics |       |
|-------|-----------------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-------|
|       |                       | B                           | Std. Error | Beta                      |       |      | Tolerance               | VIF   |
| 1     | (Constant)            | .464                        | .131       |                           | 3.534 | .000 |                         |       |
|       | Developmental Culture | .298                        | .041       | .338                      | 7.318 | .000 | .595                    | 1.682 |
|       | Hierarchical Culture  | -2.07E-02                   | .049       | -.022                     | -.424 | .672 | .482                    | 2.074 |
|       | Group Culture         | .376                        | .050       | .414                      | 7.542 | .000 | .421                    | 2.373 |
| 2     | (Constant)            | .469                        | .127       |                           | 3.686 | .000 |                         |       |
|       | Developmental Culture | .299                        | .040       | .340                      | 7.536 | .000 | .623                    | 1.604 |
|       | Hierarchical Culture  | -1.95E-02                   | .048       | -.021                     | -.406 | .685 | .495                    | 2.022 |
|       | Group Culture         | .379                        | .045       | .418                      | 8.371 | .000 | .509                    | 1.963 |
| 3     | (Constant)            | .449                        | .117       |                           | 3.846 | .000 |                         |       |
|       | Developmental Culture | .294                        | .038       | .334                      | 7.832 | .000 | .696                    | 1.436 |
|       | Group Culture         | .370                        | .039       | .407                      | 9.549 | .000 | .696                    | 1.436 |

a. Dependent Variable: 1- Top management commitment

**Collinearity Diagnostics<sup>b</sup>**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |                       |                      |               |                  |
|-------|-----------|------------|-----------------|----------------------|-----------------------|----------------------|---------------|------------------|
|       |           |            |                 | (Constant)           | Developmental Culture | Hierarchical Culture | Group Culture | Rational Culture |
| 1     | 1         | 4.875      | 1.000           | .00                  | .00                   | .00                  | .00           | .00              |
|       | 2         | 4.417E-02  | 10.506          | .43                  | .69                   | .00                  | .00           | .00              |
|       | 3         | 3.621E-02  | 11.604          | .46                  | .27                   | .00                  | .20           | .18              |
|       | 4         | 2.563E-02  | 13.792          | .03                  | .02                   | .43                  | .09           | .63              |
|       | 5         | 1.881E-02  | 16.097          | .09                  | .02                   | .56                  | .70           | .19              |
| 2     | 1         | 3.903      | 1.000           | .00                  | .00                   | .00                  | .00           |                  |
|       | 2         | 4.412E-02  | 9.405           | .50                  | .68                   | .00                  | .00           |                  |
|       | 3         | 3.339E-02  | 10.811          | .42                  | .30                   | .08                  | .46           |                  |
|       | 4         | 1.992E-02  | 13.996          | .08                  | .02                   | .92                  | .54           |                  |
| 3     | 1         | 2.924      | 1.000           | .01                  | .01                   |                      | .01           |                  |
|       | 2         | 4.396E-02  | 8.156           | .67                  | .69                   |                      | .00           |                  |
|       | 3         | 3.175E-02  | 9.597           | .33                  | .30                   |                      | .99           |                  |

a. Dependent Variable: 1- Top management commitment

**Excluded Variables<sup>c</sup>**

| Model |                      | Beta In            | t     | Sig. | Partial Correlation | Collinearity Statistics |       |                   |
|-------|----------------------|--------------------|-------|------|---------------------|-------------------------|-------|-------------------|
|       |                      |                    |       |      |                     | Tolerance               | VIF   | Minimum Tolerance |
| 2     | Rational Culture     | .008 <sup>a</sup>  | .153  | .878 | .007                | .498                    | 2.007 | .421              |
| 3     | Rational Culture     | .004 <sup>b</sup>  | .087  | .931 | .004                | .511                    | 1.956 | .501              |
|       | Hierarchical Culture | -.021 <sup>b</sup> | -.406 | .685 | -.019               | .495                    | 2.022 | .495              |

a. Predictors in the Model: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors in the Model: (Constant), Developmental Culture, Group Culture

c. Dependent Variable: 1- Top management commitment

## Regression

**Variables Entered/Removed<sup>d</sup>**

| Model | Variables Entered   | Variables Removed    | Method  |
|-------|---|----------------------|---|
| 1     | Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture <sup>a</sup> |                      | Enter   |
| 2     |   | Rational Culture     | Backward (criterion: Probability of F-to-remove >= .100). |
| 3     |   | Hierarchical Culture | Backward (criterion: Probability of F-to-remove >= .100). |

a. All requested variables entered.

b. Dependent Variable: Quality policy and planning

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .673 <sup>a</sup> | .453     | .448              | .59609                     |
| 2     | .673 <sup>b</sup> | .452     | .449              | .59587                     |
| 3     | .671 <sup>c</sup> | .451     | .448              | .59605                     |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

**ANOVA<sup>d</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 132.552        | 4   | 33.138      | 93.263  | .000 <sup>a</sup> |
|       | Residual   | 159.894        | 450 | .355        |         |                   |
|       | Total      | 292.446        | 454 |             |         |                   |
| 2     | Regression | 132.313        | 3   | 44.104      | 124.217 | .000 <sup>b</sup> |
|       | Residual   | 160.132        | 451 | .355        |         |                   |
|       | Total      | 292.446        | 454 |             |         |                   |
| 3     | Regression | 131.860        | 2   | 65.930      | 185.572 | .000 <sup>c</sup> |
|       | Residual   | 160.586        | 452 | .355        |         |                   |
|       | Total      | 292.446        | 454 |             |         |                   |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

d. Dependent Variable: Quality policy and planning

**Coefficients<sup>a</sup>**

| Model |                       | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------|-----------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|       |                       | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1     | (Constant)            | .352                        | .129       |                           | 2.736  | .006 |                         |       |
|       | Developmental Culture | .354                        | .040       | .401                      | 8.864  | .000 | .595                    | 1.682 |
|       | Hierarchical Culture  | -5.97E-02                   | .048       | -.063                     | -1.247 | .213 | .482                    | 2.074 |
|       | Group Culture         | .346                        | .049       | .380                      | 7.080  | .000 | .421                    | 2.373 |
|       | Rational Culture      | 3.611E-02                   | .044       | .040                      | .820   | .413 | .498                    | 2.007 |
| 2     | (Constant)            | .378                        | .125       |                           | 3.027  | .003 |                         |       |
|       | Developmental Culture | .361                        | .039       | .409                      | 9.261  | .000 | .623                    | 1.604 |
|       | Hierarchical Culture  | -5.34E-02                   | .047       | -.056                     | -1.131 | .259 | .495                    | 2.022 |
|       | Group Culture         | .363                        | .044       | .398                      | 8.161  | .000 | .509                    | 1.963 |
|       | (Constant)            | .322                        | .115       |                           | 2.808  | .005 |                         |       |
| 3     | Developmental Culture | .347                        | .037       | .393                      | 9.397  | .000 | .696                    | 1.436 |
|       | Group Culture         | .337                        | .038       | .370                      | 8.853  | .000 | .696                    | 1.436 |

a. Dependent Variable: Quality policy and planning

**Collinearity Diagnostics<sup>b</sup>**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |                       |                      |               |                  |
|-------|-----------|------------|-----------------|----------------------|-----------------------|----------------------|---------------|------------------|
|       |           |            |                 | (Constant)           | Developmental Culture | Hierarchical Culture | Group Culture | Rational Culture |
| 1     | 1         | 4.875      | 1.000           | .00                  | .00                   | .00                  | .00           | .00              |
|       | 2         | 4.417E-02  | 10.506          | .43                  | .69                   | .00                  | .00           | .00              |
|       | 3         | 3.621E-02  | 11.604          | .46                  | .27                   | .00                  | .20           | .18              |
|       | 4         | 2.563E-02  | 13.792          | .03                  | .02                   | .43                  | .09           | .63              |
|       | 5         | 1.881E-02  | 16.097          | .09                  | .02                   | .56                  | .70           | .19              |
| 2     | 1         | 3.903      | 1.000           | .00                  | .00                   | .00                  | .00           |                  |
|       | 2         | 4.412E-02  | 9.405           | .50                  | .68                   | .00                  | .00           |                  |
|       | 3         | 3.339E-02  | 10.811          | .42                  | .30                   | .08                  | .46           |                  |
|       | 4         | 1.992E-02  | 13.996          | .08                  | .02                   | .92                  | .54           |                  |
| 3     | 1         | 2.924      | 1.000           | .01                  | .01                   |                      | .01           |                  |
|       | 2         | 4.396E-02  | 8.156           | .67                  | .69                   |                      | .00           |                  |
|       | 3         | 3.175E-02  | 9.597           | .33                  | .30                   |                      | .99           |                  |

a. Dependent Variable: Quality policy and planning

**Excluded Variables<sup>c</sup>**

| Model |                      | Beta In            | t      | Sig. | Partial Correlation | Collinearity Statistics |       |                   |
|-------|----------------------|--------------------|--------|------|---------------------|-------------------------|-------|-------------------|
|       |                      |                    |        |      |                     | Tolerance               | VIF   | Minimum Tolerance |
| 2     | Rational Culture     | .040 <sup>a</sup>  | .820   | .413 | .039                | .498                    | 2.007 | .421              |
| 3     | Rational Culture     | .031 <sup>b</sup>  | .629   | .530 | .030                | .511                    | 1.956 | .501              |
|       | Hierarchical Culture | -.056 <sup>b</sup> | -1.131 | .259 | -.053               | .495                    | 2.022 | .495              |

a. Predictors in the Model: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors in the Model: (Constant), Developmental Culture, Group Culture

c. Dependent Variable: Quality policy and planning

## Regression

**Variables Entered/Removed<sup>d</sup>**

| Model | Variables Entered   | Variables Removed    | Method  |
|-------|---|----------------------|---|
| 1     | Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture <sup>a</sup> |                      | Enter   |
| 2     |   | Rational Culture     | Backward (criterion: Probability of F-to-remove >= .100). |
| 3     |   | Hierarchical Culture | Backward (criterion: Probability of F-to-remove >= .100). |

a. All requested variables entered.

b. Dependent Variable: Employee training

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .671 <sup>a</sup> | .450     | .445              | .61677                     |
| 2     | .670 <sup>b</sup> | .449     | .445              | .61648                     |
| 3     | .669 <sup>c</sup> | .447     | .445              | .61671                     |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

**ANOVA<sup>d</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 139.837        | 4   | 34.959      | 91.899  | .000 <sup>a</sup> |
|       | Residual   | 171.185        | 450 | .380        |         |                   |
|       | Total      | 311.022        | 454 |             |         |                   |
| 2     | Regression | 139.620        | 3   | 46.540      | 122.457 | .000 <sup>b</sup> |
|       | Residual   | 171.402        | 451 | .380        |         |                   |
|       | Total      | 311.022        | 454 |             |         |                   |
| 3     | Regression | 139.112        | 2   | 69.556      | 182.882 | .000 <sup>c</sup> |
|       | Residual   | 171.910        | 452 | .380        |         |                   |
|       | Total      | 311.022        | 454 |             |         |                   |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

d. Dependent Variable: Employee training



**Coefficients<sup>a</sup>**

| Model |                       | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------|-----------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|       |                       | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1     | (Constant)            | .381                        | .133       |                           | 2.859  | .004 |                         |       |
|       | Developmental Culture | .354                        | .041       | .389                      | 8.575  | .000 | .595                    | 1.682 |
|       | Hierarchical Culture  | -6.25E-02                   | .050       | -.064                     | -1.261 | .208 | .482                    | 2.074 |
|       | Group Culture         | .368                        | .051       | .392                      | 7.277  | .000 | .421                    | 2.373 |
| 2     | (Constant)            | .406                        | .129       |                           | 3.139  | .002 |                         |       |
|       | Developmental Culture | .361                        | .040       | .396                      | 8.952  | .000 | .623                    | 1.604 |
|       | Hierarchical Culture  | -5.65E-02                   | .049       | -.057                     | -1.156 | .248 | .495                    | 2.022 |
|       | Group Culture         | .384                        | .046       | .409                      | 8.350  | .000 | .509                    | 1.963 |
| 3     | (Constant)            | .346                        | .119       |                           | 2.919  | .004 |                         |       |
|       | Developmental Culture | .346                        | .038       | .380                      | 9.062  | .000 | .696                    | 1.436 |
|       | Group Culture         | .357                        | .039       | .380                      | 9.059  | .000 | .696                    | 1.436 |

a. Dependent Variable: Employee training

**Collinearity Diagnostics<sup>b</sup>**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |                       |                      |               |                  |
|-------|-----------|------------|-----------------|----------------------|-----------------------|----------------------|---------------|------------------|
|       |           |            |                 | (Constant)           | Developmental Culture | Hierarchical Culture | Group Culture | Rational Culture |
| 1     | 1         | 4.875      | 1.000           | .00                  | .00                   | .00                  | .00           | .00              |
|       | 2         | 4.417E-02  | 10.506          | .43                  | .69                   | .00                  | .00           | .00              |
|       | 3         | 3.621E-02  | 11.604          | .46                  | .27                   | .00                  | .20           | .18              |
|       | 4         | 2.563E-02  | 13.792          | .03                  | .02                   | .43                  | .09           | .63              |
|       | 5         | 1.881E-02  | 16.097          | .09                  | .02                   | .56                  | .70           | .19              |
| 2     | 1         | 3.903      | 1.000           | .00                  | .00                   | .00                  | .00           |                  |
|       | 2         | 4.412E-02  | 9.405           | .50                  | .68                   | .00                  | .00           |                  |
|       | 3         | 3.339E-02  | 10.811          | .42                  | .30                   | .08                  | .46           |                  |
|       | 4         | 1.992E-02  | 13.996          | .08                  | .02                   | .92                  | .54           |                  |
| 3     | 1         | 2.924      | 1.000           | .01                  | .01                   |                      | .01           |                  |
|       | 2         | 4.396E-02  | 8.156           | .67                  | .69                   |                      | .00           |                  |
|       | 3         | 3.175E-02  | 9.597           | .33                  | .30                   |                      | .99           |                  |

a. Dependent Variable: Employee training

**Excluded Variables<sup>c</sup>**

| Model |                      | Beta In            | t      | Sig. | Partial Correlation | Collinearity Statistics |       |                   |
|-------|----------------------|--------------------|--------|------|---------------------|-------------------------|-------|-------------------|
|       |                      |                    |        |      |                     | Tolerance               | VIF   | Minimum Tolerance |
| 2     | Rational Culture     | .037 <sup>a</sup>  | .757   | .450 | .036                | .498                    | 2.007 | .421              |
| 3     | Rational Culture     | .028 <sup>b</sup>  | .562   | .574 | .026                | .511                    | 1.956 | .501              |
|       | Hierarchical Culture | -.057 <sup>b</sup> | -1.156 | .248 | -.054               | .495                    | 2.022 | .495              |

a. Predictors in the Model: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors in the Model: (Constant), Developmental Culture, Group Culture

c. Dependent Variable: Employee training

## Regression

**Variables Entered/Removed<sup>d</sup>**

| Model | Variables Entered   | Variables Removed    | Method  |
|-------|---|----------------------|---|
| 1     | Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture <sup>a</sup> |                      | Enter   |
| 2     |   | Rational Culture     | Backward (criterion: Probability of F-to-remove >= .100). |
| 3     |   | Hierarchical Culture | Backward (criterion: Probability of F-to-remove >= .100). |

a. All requested variables entered.

b. Dependent Variable: Employees involvement

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .690 <sup>a</sup> | .476     | .471              | .58152                     |
| 2     | .690 <sup>b</sup> | .476     | .472              | .58102                     |
| 3     | .689 <sup>c</sup> | .474     | .472              | .58118                     |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

**ANOVA<sup>d</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 138.262        | 4   | 34.566      | 102.214 | .000 <sup>a</sup> |
|       | Residual   | 152.175        | 450 | .338        |         |                   |
|       | Total      | 290.437        | 454 |             |         |                   |
| 2     | Regression | 138.188        | 3   | 46.063      | 136.448 | .000 <sup>b</sup> |
|       | Residual   | 152.250        | 451 | .338        |         |                   |
|       | Total      | 290.437        | 454 |             |         |                   |
| 3     | Regression | 137.767        | 2   | 68.883      | 203.938 | .000 <sup>c</sup> |
|       | Residual   | 152.671        | 452 | .338        |         |                   |
|       | Total      | 290.437        | 454 |             |         |                   |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Developmental Culture, Group Culture

d. Dependent Variable: Employees involvement

**Coefficients<sup>a</sup>**

| Model |                       | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------|-----------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|       |                       | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1     | (Constant)            | .382                        | .126       |                           | 3.043  | .002 |                         |       |
|       | Developmental Culture | .388                        | .039       | .441                      | 9.954  | .000 | .595                    | 1.682 |
|       | Hierarchical Culture  | -5.49E-02                   | .047       | -.058                     | -1.176 | .240 | .482                    | 2.074 |
|       | Group Culture         | .335                        | .048       | .369                      | 7.019  | .000 | .421                    | 2.373 |
|       | Rational Culture      | 2.016E-02                   | .043       | .023                      | .469   | .639 | .498                    | 2.007 |
| 2     | (Constant)            | .397                        | .122       |                           | 3.258  | .001 |                         |       |
|       | Developmental Culture | .392                        | .038       | .445                      | 10.306 | .000 | .623                    | 1.604 |
|       | Hierarchical Culture  | -5.14E-02                   | .046       | -.054                     | -1.116 | .265 | .495                    | 2.022 |
|       | Group Culture         | .344                        | .043       | .379                      | 7.938  | .000 | .509                    | 1.963 |
| 3     | (Constant)            | .343                        | .112       |                           | 3.066  | .002 |                         |       |
|       | Developmental Culture | .378                        | .036       | .429                      | 10.506 | .000 | .696                    | 1.436 |
|       | Group Culture         | .319                        | .037       | .352                      | 8.601  | .000 | .696                    | 1.436 |

a. Dependent Variable: Employees involvement

**Collinearity Diagnostics<sup>b</sup>**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |                       |                      |               |                  |
|-------|-----------|------------|-----------------|----------------------|-----------------------|----------------------|---------------|------------------|
|       |           |            |                 | (Constant)           | Developmental Culture | Hierarchical Culture | Group Culture | Rational Culture |
| 1     | 1         | 4.875      | 1.000           | .00                  | .00                   | .00                  | .00           | .00              |
|       | 2         | 4.417E-02  | 10.506          | .43                  | .69                   | .00                  | .00           | .00              |
|       | 3         | 3.621E-02  | 11.604          | .46                  | .27                   | .00                  | .20           | .18              |
|       | 4         | 2.563E-02  | 13.792          | .03                  | .02                   | .43                  | .09           | .63              |
|       | 5         | 1.881E-02  | 16.097          | .09                  | .02                   | .56                  | .70           | .19              |
| 2     | 1         | 3.903      | 1.000           | .00                  | .00                   | .00                  | .00           |                  |
|       | 2         | 4.412E-02  | 9.405           | .50                  | .68                   | .00                  | .00           |                  |
|       | 3         | 3.339E-02  | 10.811          | .42                  | .30                   | .08                  | .46           |                  |
|       | 4         | 1.992E-02  | 13.996          | .08                  | .02                   | .92                  | .54           |                  |
| 3     | 1         | 2.924      | 1.000           | .01                  | .01                   |                      | .01           |                  |
|       | 2         | 4.396E-02  | 8.156           | .67                  | .69                   |                      | .00           |                  |
|       | 3         | 3.175E-02  | 9.597           | .33                  | .30                   |                      | .99           |                  |

a. Dependent Variable: Employees involvement

**Excluded Variables<sup>c</sup>**

| Model |                      | Beta In            | t      | Sig. | Partial Correlation | Collinearity Statistics |       |                   |
|-------|----------------------|--------------------|--------|------|---------------------|-------------------------|-------|-------------------|
|       |                      |                    |        |      |                     | Tolerance               | VIF   | Minimum Tolerance |
| 2     | Rational Culture     | .023 <sup>a</sup>  | .469   | .639 | .022                | .498                    | 2.007 | .421              |
| 3     | Rational Culture     | .014 <sup>b</sup>  | .285   | .776 | .013                | .511                    | 1.956 | .501              |
|       | Hierarchical Culture | -.054 <sup>b</sup> | -1.116 | .265 | -.052               | .495                    | 2.022 | .495              |

a. Predictors in the Model: (Constant), Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors in the Model: (Constant), Developmental Culture, Group Culture

c. Dependent Variable: Employees involvement

## Regression

**Variables Entered/Removed<sup>a</sup>**

| Model | Variables Entered   | Variables Removed     | Method  |
|-------|---|-----------------------|---|
| 1     | Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture <sup>a</sup> |                       | Enter   |
| 2     |   | Developmental Culture | Backward (criterion: Probability of F-to-remove >= .100). |
| 3     |   | Hierarchical Culture  | Backward (criterion: Probability of F-to-remove >= .100). |
| 4     |   | Rational Culture      | Backward (criterion: Probability of F-to-remove >= .100). |

a. All requested variables entered.

b. Dependent Variable: Reward and Recognition

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .546 <sup>a</sup> | .298     | .292              | .77030                     |
| 2     | .545 <sup>b</sup> | .297     | .293              | .76989                     |
| 3     | .542 <sup>c</sup> | .294     | .291              | .77084                     |
| 4     | .539 <sup>d</sup> | .291     | .289              | .77176                     |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Rational Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Rational Culture, Group Culture

d. Predictors: (Constant), Group Culture

**ANOVA<sup>e</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 113.415        | 4   | 28.354      | 47.785  | .000 <sup>a</sup> |
|       | Residual   | 267.010        | 450 | .593        |         |                   |
|       | Total      | 380.425        | 454 |             |         |                   |
| 2     | Regression | 113.103        | 3   | 37.701      | 63.606  | .000 <sup>b</sup> |
|       | Residual   | 267.322        | 451 | .593        |         |                   |
|       | Total      | 380.425        | 454 |             |         |                   |
| 3     | Regression | 111.850        | 2   | 55.925      | 94.119  | .000 <sup>c</sup> |
|       | Residual   | 268.575        | 452 | .594        |         |                   |
|       | Total      | 380.425        | 454 |             |         |                   |
| 4     | Regression | 110.615        | 1   | 110.615     | 185.717 | .000 <sup>d</sup> |
|       | Residual   | 269.810        | 453 | .596        |         |                   |
|       | Total      | 380.425        | 454 |             |         |                   |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Rational Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Rational Culture, Group Culture

d. Predictors: (Constant), Group Culture

e. Dependent Variable: Reward and Recognition

**Coefficients<sup>a</sup>**

| Model |                       | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------|-----------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|       |                       | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1     | (Constant)            | .709                        | .166       |                           | 4.258  | .000 |                         |       |
|       | Developmental Culture | 3.742E-02                   | .052       | .037                      | .725   | .469 | .595                    | 1.682 |
|       | Hierarchical Culture  | 7.392E-02                   | .062       | .068                      | 1.195  | .233 | .482                    | 2.074 |
|       | Group Culture         | .564                        | .063       | .543                      | 8.923  | .000 | .421                    | 2.373 |
| 2     | (Constant)            | .723                        | .165       |                           | 4.378  | .000 |                         |       |
|       | Hierarchical Culture  | 8.636E-02                   | .059       | .079                      | 1.454  | .147 | .522                    | 1.915 |
|       | Group Culture         | .571                        | .062       | .550                      | 9.158  | .000 | .432                    | 2.313 |
|       | Rational Culture      | -9.69E-02                   | .056       | -.095                     | -1.743 | .082 | .522                    | 1.914 |
| 3     | (Constant)            | .818                        | .152       |                           | 5.380  | .000 |                         |       |
|       | Group Culture         | .613                        | .055       | .591                      | 11.107 | .000 | .553                    | 1.810 |
|       | Rational Culture      | -7.80E-02                   | .054       | -.077                     | -1.442 | .150 | .553                    | 1.810 |
| 4     | (Constant)            | .727                        | .139       |                           | 5.247  | .000 |                         |       |
|       | Group Culture         | .560                        | .041       | .539                      | 13.628 | .000 | 1.000                   | 1.000 |

a. Dependent Variable: Reward and Recognition

**Collinearity Diagnostics<sup>a</sup>**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |                       |                      |               |                  |
|-------|-----------|------------|-----------------|----------------------|-----------------------|----------------------|---------------|------------------|
|       |           |            |                 | (Constant)           | Developmental Culture | Hierarchical Culture | Group Culture | Rational Culture |
| 1     | 1         | 4.875      | 1.000           | .00                  | .00                   | .00                  | .00           | .00              |
|       | 2         | 4.417E-02  | 10.506          | .43                  | .69                   | .00                  | .00           | .00              |
|       | 3         | 3.621E-02  | 11.604          | .46                  | .27                   | .00                  | .20           | .18              |
|       | 4         | 2.563E-02  | 13.792          | .03                  | .02                   | .43                  | .09           | .63              |
|       | 5         | 1.881E-02  | 16.097          | .09                  | .02                   | .56                  | .70           | .19              |
| 2     | 1         | 3.917      | 1.000           | .00                  |                       | .00                  | .00           | .00              |
|       | 2         | 3.816E-02  | 10.131          | .87                  |                       | .00                  | .14           | .11              |
|       | 3         | 2.582E-02  | 12.316          | .03                  |                       | .46                  | .06           | .71              |
|       | 4         | 1.905E-02  | 14.339          | .09                  |                       | .53                  | .80           | .19              |
| 3     | 1         | 2.940      | 1.000           | .01                  |                       |                      | .00           | .00              |
|       | 2         | 3.808E-02  | 8.786           | .99                  |                       |                      | .19           | .14              |
|       | 3         | 2.217E-02  | 11.515          | .00                  |                       |                      | .81           | .86              |
| 4     | 1         | 1.965      | 1.000           | .02                  |                       |                      | .02           |                  |
|       | 2         | 3.469E-02  | 7.527           | .98                  |                       |                      | .98           |                  |

a. Dependent Variable: Reward and Recognition

**Excluded Variables<sup>a</sup>**

| Model |                       | Beta In            | t      | Sig. | Partial Correlation | Collinearity Statistics |       |                   |
|-------|-----------------------|--------------------|--------|------|---------------------|-------------------------|-------|-------------------|
|       |                       |                    |        |      |                     | Tolerance               | VIF   | Minimum Tolerance |
| 2     | Developmental Culture | .037 <sup>a</sup>  | .725   | .469 | .034                | .595                    | 1.682 | .421              |
| 3     | Developmental Culture | .054 <sup>b</sup>  | 1.099  | .272 | .052                | .644                    | 1.552 | .501              |
|       | Hierarchical Culture  | .079 <sup>b</sup>  | 1.454  | .147 | .068                | .522                    | 1.915 | .432              |
| 4     | Developmental Culture | .031 <sup>c</sup>  | .662   | .509 | .031                | .696                    | 1.436 | .696              |
|       | Hierarchical Culture  | .057 <sup>c</sup>  | 1.074  | .283 | .050                | .552                    | 1.810 | .552              |
|       | Rational Culture      | -.077 <sup>c</sup> | -1.442 | .150 | -.068               | .553                    | 1.810 | .553              |

a. Predictors in the Model: (Constant), Rational Culture, Hierarchical Culture, Group Culture

b. Predictors in the Model: (Constant), Rational Culture, Group Culture

c. Predictors in the Model: (Constant), Group Culture

d. Dependent Variable: Reward and Recognition

## Regression

**Variables Entered/Removed<sup>d</sup>**

| Model | Variables Entered   | Variables Removed    | Method  |
|-------|---|----------------------|---|
| 1     | Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture <sup>a</sup> |                      | Enter   |
| 2     |   | Hierarchical Culture | Backward (criterion: Probability of F-to-remove >= .100). |
| 3     |   | Rational Culture     | Backward (criterion: Probability of F-to-remove >= .100). |

- a. All requested variables entered.  
 b. Dependent Variable: Benchmarking

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .530 <sup>a</sup> | .281     | .275              | .77018                     |
| 2     | .530 <sup>b</sup> | .281     | .276              | .76941                     |
| 3     | .530 <sup>c</sup> | .280     | .277              | .76897                     |

- a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture  
 b. Predictors: (Constant), Rational Culture, Developmental Culture, Group Culture  
 c. Predictors: (Constant), Developmental Culture, Group Culture

**ANOVA<sup>d</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 104.517        | 4   | 26.129      | 44.050 | .000 <sup>a</sup> |
|       | Residual   | 266.927        | 450 | .593        |        |                   |
|       | Total      | 371.444        | 454 |             |        |                   |
| 2     | Regression | 104.453        | 3   | 34.818      | 58.814 | .000 <sup>b</sup> |
|       | Residual   | 266.991        | 451 | .592        |        |                   |
|       | Total      | 371.444        | 454 |             |        |                   |
| 3     | Regression | 104.172        | 2   | 52.086      | 88.086 | .000 <sup>c</sup> |
|       | Residual   | 267.272        | 452 | .591        |        |                   |
|       | Total      | 371.444        | 454 |             |        |                   |

- a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture  
 b. Predictors: (Constant), Rational Culture, Developmental Culture, Group Culture  
 c. Predictors: (Constant), Developmental Culture, Group Culture  
 d. Dependent Variable: Benchmarking

**Coefficients<sup>a</sup>**

| Model |                       | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. | Collinearity Statistics |       |
|-------|-----------------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-------|
|       |                       | B                           | Std. Error | Beta                      |       |      | Tolerance               | VIF   |
|       |                       | 1                           | (Constant) | .612                      |       |      | .166                    |       |
|       | Developmental Culture | 9.833E-02                   | .052       | .099                      | 1.906 | .057 | .595                    | 1.682 |
|       | Hierarchical Culture  | 2.032E-02                   | .062       | .019                      | .329  | .743 | .482                    | 2.074 |
|       | Group Culture         | .442                        | .063       | .430                      | 6.990 | .000 | .421                    | 2.373 |
|       | Rational Culture      | 3.570E-02                   | .057       | .036                      | .627  | .531 | .498                    | 2.007 |
| 2     | (Constant)            | .631                        | .156       |                           | 4.038 | .000 |                         |       |
|       | Developmental Culture | .103                        | .050       | .104                      | 2.081 | .038 | .644                    | 1.552 |
|       | Group Culture         | .450                        | .058       | .438                      | 7.773 | .000 | .501                    | 1.995 |
|       | Rational Culture      | 3.868E-02                   | .056       | .038                      | .689  | .491 | .511                    | 1.956 |
| 3     | (Constant)            | .665                        | .148       |                           | 4.500 | .000 |                         |       |
|       | Developmental Culture | .112                        | .048       | .113                      | 2.361 | .019 | .696                    | 1.436 |
|       | Group Culture         | .471                        | .049       | .459                      | 9.597 | .000 | .696                    | 1.436 |

a. Dependent Variable: Benchmarking

**Collinearity Diagnostics<sup>b</sup>**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |                       |                      |               |                  |
|-------|-----------|------------|-----------------|----------------------|-----------------------|----------------------|---------------|------------------|
|       |           |            |                 | (Constant)           | Developmental Culture | Hierarchical Culture | Group Culture | Rational Culture |
|       |           |            |                 | 1                    | 1                     | 4.875                | 1.000         | .00              |
|       | 2         | 4.417E-02  | 10.506          | .43                  | .69                   | .00                  | .00           | .00              |
|       | 3         | 3.621E-02  | 11.604          | .46                  | .27                   | .00                  | .20           | .18              |
|       | 4         | 2.563E-02  | 13.792          | .03                  | .02                   | .43                  | .09           | .63              |
|       | 5         | 1.881E-02  | 16.097          | .09                  | .02                   | .56                  | .70           | .19              |
| 2     | 1         | 3.898      | 1.000           | .00                  | .00                   |                      | .00           | .00              |
|       | 2         | 4.407E-02  | 9.405           | .52                  | .71                   |                      | .00           | .00              |
|       | 3         | 3.612E-02  | 10.388          | .47                  | .28                   |                      | .25           | .22              |
|       | 4         | 2.216E-02  | 13.262          | .00                  | .00                   |                      | .75           | .78              |
| 3     | 1         | 2.924      | 1.000           | .01                  | .01                   |                      | .01           |                  |
|       | 2         | 4.396E-02  | 8.156           | .67                  | .69                   |                      | .00           |                  |
|       | 3         | 3.175E-02  | 9.597           | .33                  | .30                   |                      | .99           |                  |

a. Dependent Variable: Benchmarking

**Excluded Variables<sup>c</sup>**

| Model |                      | Beta In           | t    | Sig. | Partial Correlation | Collinearity Statistics |       |                   |
|-------|----------------------|-------------------|------|------|---------------------|-------------------------|-------|-------------------|
|       |                      |                   |      |      |                     | Tolerance               | VIF   | Minimum Tolerance |
| 2     | Hierarchical Culture | .019 <sup>a</sup> | .329 | .743 | .015                | .482                    | 2.074 | .421              |
| 3     | Hierarchical Culture | .025 <sup>b</sup> | .434 | .664 | .020                | .495                    | 2.022 | .495              |
|       | Rational Culture     | .038 <sup>b</sup> | .689 | .491 | .032                | .511                    | 1.956 | .501              |

a. Predictors in the Model: (Constant), Rational Culture, Developmental Culture, Group Culture

b. Predictors in the Model: (Constant), Developmental Culture, Group Culture

c. Dependent Variable: Benchmarking

## Regression

**Variables Entered/Removed<sup>d</sup>**

| Model | Variables Entered   | Variables Removed     | Method  |
|-------|---|-----------------------|---|
| 1     | Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture <sup>a</sup> |                       | Enter   |
| 2     |   | Developmental Culture | Backward (criterion: Probability of F-to-remove >= .100). |
| 3     |   | Hierarchical Culture  | Backward (criterion: Probability of F-to-remove >= .100). |
| 4     |   | Rational Culture      | Backward (criterion: Probability of F-to-remove >= .100). |

a. All requested variables entered.

b. Dependent Variable: continuous improvement

**Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .551 <sup>a</sup> | .303     | .297              | .78040                     |
| 2     | .550 <sup>b</sup> | .302     | .298              | .78001                     |
| 3     | .547 <sup>c</sup> | .299     | .296              | .78072                     |
| 4     | .545 <sup>d</sup> | .297     | .296              | .78113                     |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Rational Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Rational Culture, Group Culture

d. Predictors: (Constant), Group Culture

**ANOVA<sup>e</sup>**

| Model |            | Sum of Squares | df  | Mean Square | F       | Sig.              |
|-------|------------|----------------|-----|-------------|---------|-------------------|
| 1     | Regression | 119.212        | 4   | 29.803      | 48.935  | .000 <sup>a</sup> |
|       | Residual   | 274.061        | 450 | .609        |         |                   |
|       | Total      | 393.273        | 454 |             |         |                   |
| 2     | Regression | 118.879        | 3   | 39.626      | 65.131  | .000 <sup>b</sup> |
|       | Residual   | 274.394        | 451 | .608        |         |                   |
|       | Total      | 393.273        | 454 |             |         |                   |
| 3     | Regression | 117.768        | 2   | 58.884      | 96.606  | .000 <sup>c</sup> |
|       | Residual   | 275.505        | 452 | .610        |         |                   |
|       | Total      | 393.273        | 454 |             |         |                   |
| 4     | Regression | 116.867        | 1   | 116.867     | 191.532 | .000 <sup>d</sup> |
|       | Residual   | 276.406        | 453 | .610        |         |                   |
|       | Total      | 393.273        | 454 |             |         |                   |

a. Predictors: (Constant), Rational Culture, Developmental Culture, Hierarchical Culture, Group Culture

b. Predictors: (Constant), Rational Culture, Hierarchical Culture, Group Culture

c. Predictors: (Constant), Rational Culture, Group Culture

d. Predictors: (Constant), Group Culture

e. Dependent Variable: continuous improvement



**Coefficients<sup>a</sup>**

| Model |                       | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------|-----------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|       |                       | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1     | (Constant)            | .647                        | .169       |                           | 3.840  | .000 |                         |       |
|       | Developmental Culture | 3.863E-02                   | .052       | .038                      | .739   | .460 | .595                    | 1.682 |
|       | Hierarchical Culture  | 6.849E-02                   | .063       | .062                      | 1.093  | .275 | .482                    | 2.074 |
|       | Group Culture         | .574                        | .064       | .543                      | 8.965  | .000 | .421                    | 2.373 |
|       | Rational Culture      | -9.35E-02                   | .058       | -.090                     | -1.622 | .105 | .498                    | 2.007 |
| 2     | (Constant)            | .662                        | .167       |                           | 3.959  | .000 |                         |       |
|       | Hierarchical Culture  | 8.134E-02                   | .060       | .074                      | 1.352  | .177 | .522                    | 1.915 |
|       | Group Culture         | .581                        | .063       | .550                      | 9.202  | .000 | .432                    | 2.313 |
|       | Rational Culture      | -8.44E-02                   | .056       | -.082                     | -1.499 | .135 | .522                    | 1.914 |
| 3     | (Constant)            | .751                        | .154       |                           | 4.881  | .000 |                         |       |
|       | Group Culture         | .621                        | .056       | .588                      | 11.106 | .000 | .553                    | 1.810 |
|       | Rational Culture      | -6.66E-02                   | .055       | -.064                     | -1.216 | .225 | .553                    | 1.810 |
| 4     | (Constant)            | .674                        | .140       |                           | 4.806  | .000 |                         |       |
|       | Group Culture         | .576                        | .042       | .545                      | 13.839 | .000 | 1.000                   | 1.000 |

a. Dependent Variable: continuous improvement

**Collinearity Diagnostics<sup>a</sup>**

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions |                       |                      |               |                  |
|-------|-----------|------------|-----------------|----------------------|-----------------------|----------------------|---------------|------------------|
|       |           |            |                 | (Constant)           | Developmental Culture | Hierarchical Culture | Group Culture | Rational Culture |
| 1     | 1         | 4.875      | 1.000           | .00                  | .00                   | .00                  | .00           | .00              |
|       | 2         | 4.417E-02  | 10.506          | .43                  | .69                   | .00                  | .00           | .00              |
|       | 3         | 3.621E-02  | 11.604          | .46                  | .27                   | .00                  | .20           | .18              |
|       | 4         | 2.563E-02  | 13.792          | .03                  | .02                   | .43                  | .09           | .63              |
|       | 5         | 1.881E-02  | 16.097          | .09                  | .02                   | .56                  | .70           | .19              |
| 2     | 1         | 3.917      | 1.000           | .00                  |                       | .00                  | .00           | .00              |
|       | 2         | 3.816E-02  | 10.131          | .87                  |                       | .00                  | .14           | .11              |
|       | 3         | 2.582E-02  | 12.316          | .03                  |                       | .46                  | .06           | .71              |
|       | 4         | 1.905E-02  | 14.339          | .09                  |                       | .53                  | .80           | .19              |
| 3     | 1         | 2.940      | 1.000           | .01                  |                       |                      | .00           | .00              |
|       | 2         | 3.808E-02  | 8.786           | .99                  |                       |                      | .19           | .14              |
|       | 3         | 2.217E-02  | 11.515          | .00                  |                       |                      | .81           | .86              |
| 4     | 1         | 1.965      | 1.000           | .02                  |                       |                      | .02           |                  |
|       | 2         | 3.469E-02  | 7.527           | .98                  |                       |                      | .98           |                  |

a. Dependent Variable: continuous improvement

**Excluded Variables<sup>a</sup>**

| Model |                       | Beta In            | t      | Sig. | Partial Correlation | Collinearity Statistics |       |                   |
|-------|-----------------------|--------------------|--------|------|---------------------|-------------------------|-------|-------------------|
|       |                       |                    |        |      |                     | Tolerance               | VIF   | Minimum Tolerance |
| 2     | Developmental Culture | .038 <sup>a</sup>  | .739   | .460 | .035                | .595                    | 1.682 | .421              |
| 3     | Developmental Culture | .053 <sup>b</sup>  | 1.084  | .279 | .051                | .644                    | 1.552 | .501              |
|       | Hierarchical Culture  | .074 <sup>b</sup>  | 1.352  | .177 | .064                | .522                    | 1.915 | .432              |
| 4     | Developmental Culture | .034 <sup>c</sup>  | .710   | .478 | .033                | .696                    | 1.436 | .696              |
|       | Hierarchical Culture  | .054 <sup>c</sup>  | 1.028  | .304 | .048                | .552                    | 1.810 | .552              |
|       | Rational Culture      | -.064 <sup>c</sup> | -1.216 | .225 | -.057               | .553                    | 1.810 | .553              |

a. Predictors in the Model: (Constant), Rational Culture, Hierarchical Culture, Group Culture

b. Predictors in the Model: (Constant), Rational Culture, Group Culture

c. Predictors in the Model: (Constant), Group Culture

d. Dependent Variable: continuous improvement

## Appendix E: Kruskal-Wallis Test

### Ranks

|                      | Banks  | N   | Mean Rank |
|----------------------|--------|-----|-----------|
| De Culture           | Bank A | 138 | 231.68    |
|                      | Bank B | 163 | 228.88    |
|                      | Bank C | 154 | 223.77    |
|                      | Total  | 455 |           |
| Hierarchical Culture | Bank A | 138 | 231.07    |
|                      | Bank B | 163 | 217.02    |
|                      | Bank C | 154 | 236.87    |
|                      | Total  | 455 |           |
| Group Culture        | Bank A | 138 | 230.61    |
|                      | Bank B | 163 | 221.61    |
|                      | Bank C | 154 | 227.99    |
|                      | Total  | 455 |           |
| Rational Culture     | Bank A | 138 | 231.99    |
|                      | Bank B | 163 | 220.01    |
|                      | Bank C | 154 | 232.89    |
|                      | Total  | 455 |           |

### Test Statistics<sup>a,b</sup>

|             | De Culture | Hierarchical Culture | Group Culture | Rational Culture |
|-------------|------------|----------------------|---------------|------------------|
| Chi-Square  | .278       | 1.939                | .387          | .952             |
| df          | 2          | 2                    | 2             | 2                |
| Asymp. Sig. | .870       | .379                 | .824          | .621             |

a. Kruskal Wallis Test

b. Grouping Variable: Banks