



# **Total Quality Management Applications in the Saudi University Information Centres**

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of Doctor of Philosophy

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By

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## **ABSTRACT**

The objective of this research is to investigate the applications of TQM in the Saudi University Information Centres (ICs). Through this study, data were gathered in two phases, namely quantitative and qualitative. In the quantitative phase, six university information centres were investigated through a questionnaire that was developed based on the European Foundation for Quality Management excellence model (EFQM). This questionnaire aims to identify the quality issues in the six ICs. In the qualitative phase, the information centre managers and staff were interviewed in three selected cases due to access, time and distance considerations. The two sets of data were combined in an attempt to reach a deep understanding of the actual applications of TQM in the Saudi ICs.

This study revealed that the applications of TQM in the ICs under investigation are located at three levels on a five-step scale. The first level, Absent, is where the IC failed in terms of establishing a framework to implement the quality concept, which affected the quality of services. At the second level, Managed is where the IC implemented most of the quality principles in its operations, but failed in implementing at least one of these principles and the services to a sufficient level of quality. At the third level, Continuous, the IC implemented all of the quality requirements, and its services have a high level of quality.

Several factors were found to be critical in implementing TQM. These factors are quality culture, management commitment, professional awareness, staff empowerment, training, teamwork, user focus, process management and quality unit.

This study contributes to the knowledge of TQM as it helps to understand TQM implementation in Saudi university ICs. Some recommendations for further research have been derived from this research, such as socio-cultural influences; need to be investigated in more depth to discover how this culture affects the process of implementing TQM. Replication of this study at all the Saudi university ICs over a longer period of time can confirm the validity of the findings and lead to more valid findings. Moreover, the benchmarking tool and critical success factors provided in this study need to be applied in further studies to ensure their validity and effectiveness in TQM implementation. User satisfaction needs to be investigated in more depth to discover users' perceptions towards Saudi IC services.

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## **GLOSSARY OF ABBREVIATIONS AND ACRONYMS**

**EFQM** European Foundation for Quality Management

**IC** Information Centre

**LIS** Library and Information Services

**TQM** Total Quality Management

## **LIST OF PRESENTATIONS ARAISING FROM THE THESIS**

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## CHAPTER ONE: INTRODUCTION

### Introduction

The world today is characterised by many different challenges including the scarcity of resources and rapidly changing circumstances, all of which require organisations, including governments, to identify their priorities and distribute the available resources effectively. There are particular challenges for governments in maintaining the required balance between the scarcity of resources and capabilities (Salameh *et al.*, 2011). There is strong competition between organisations within both commercial and public service sectors in the provision of services to their customers (Agus *et al.*, 2007). Importantly, this kind of competition creates a requirement to develop methods of performance evaluation and to take advantage of different management styles, in order to provide better services. Other challenges facing organisations appear in increased competition at both local and global levels, and the changes in consumer behaviour, namely greater awareness in consumption and a capacity to select the best service.

The pressure to provide high-quality services with low costs has forced governmental bodies to adopt several strategic approaches in terms of setting goals and allocating resources. This is achievable by assessing the external and internal environments that may affect the programmes of government organisations. Total Quality Management (TQM), for example, is a management philosophy focusing on the performance of an integrated workforce and comprehensive human participation within an organisation in continuous improvement, in order to reach customer satisfaction. TQM is based on the



continuous improvement of performance at all practical and administrative levels of the organisation and utilising all available resources (Brocka and Brocka, 1992).

Organisations in developed countries have been proactive in their search for methods to improve administrative efficiency (Twaissi, 2008). Organisations in these countries have applied models and frameworks developed by theorists and people interested in administrative aspects in the pursuit of the optimal allocation of available resources. The early application of TQM in Japan and America was limited initially to the industrial and commercial sectors. Later, however, it was applied in the public service sector (McKinney, 2004).

In contrast, the initial application of the TQM concept in developing countries began later (Taddese and Osada, 2010). In Saudi Arabia, for example, different organisations provide their services to a wide range of customers without implementing any formal or standardised quality model.

TQM has been implemented widely around the world within the public service sector, in general, and the higher education sector, in particular. . In Saudi Arabia, one example of the application of the quality concept in the higher education system is the adoption of the principles of TQM across all units within the King Abdulaziz University, including the Information Centre (IC). The higher education system reflects the social and economic contexts in which it exists; thus Saudi Higher Education institutions face challenges as a result of increasing numbers of students and the high number of universities newly established in the last decade.

It has been claimed that the university IC is one of the most important units within the university (Alomran, 2010). Indeed it has been said that the higher educational system

is composed of three main pillars: academic staff, students, and the IC (Abbas, 2005). No provider is more closely related to the academic and research programmes of a university than the IC (Frank *et al.*, 2001).

### 1.1. Statement of the Problem

There are several problems and obstacles facing Saudi university ICs, all of which are known to affect the level of IC service. Assalim (2010) argued that the majority of Saudi ICs implement autocratic management styles. The question is whether the Saudi university ICs, with their existing autocratic management style, are capable of improving their processes and provide a high-quality service to meet the needs and expectations of the increasing number of users. This question arises from the work of Abbas (2005), who highlighted the importance of the role of the IC and viewed it as one of the basic criteria by which to evaluate the system of higher education in Saudi Arabia.

There has been increased interest in the application of TQM and a subsequent expansion of the role played by ICs in their capacity to benefit from this concept. TQM could help university ICs in strengthening their competitive position, improving productivity, reducing costs and introducing better cost management, improving customer satisfaction and improving processes (Kaur *et al.*, 2006). Alomran (2010) and Hernon and Altman (2010) stressed that the implementation of TQM in the IC is an effective way to evaluate the quality of services and provide goals for improvement. One especially beneficial aspect of TQM is its emphasis on continuous improvement. Rowley (1996) indicated that LIS organisations are non-profit organisations and that management of vast amounts of information resources requires the use of the most

modern management techniques. Riggs (1992b) pointed out that the IC managers can transform and improve their organisation's performance by formulating a strategic plan, and following it with a commitment to continuous quality improvement.

Like other public service organisations in Saudi Arabia, the university ICs face a wave of challenges such as low productivity; increased costs; a lack of financial resources; the revolution in information and communications technology; as well as the low level of job satisfaction amongst staff (Alomran, 2010; Altayyar, 2009). Alomran (2010) indicated that considers improvement in quality to be inconsistent with increasing productivity contributes to increased costs and may cause many ICs managers to be cautious about investing in the application of the TQM concept. Meeting and overcoming these challenges is very important in order to enable such ICs to compete with other ICs and succeed. With this in mind, there must be a proper and inclusive application of the TQM concept, in order to improve the performance of ICs and enable them to meet the requirements of the users and to achieve excellence.

The increasing interest in the TQM application, alongside the recognition of the problems continuing to face Saudi university ICs, encouraged the researcher to raise the question: which management style should be applied in the Saudi university ICs? In developed countries, TQM is one of the methods that has been adopted since the 1990s in order to evaluate the performance of university ICs and to establish a culture of continuous improvement in the university IC services (Alemna, 2001; Pradhan, 2012). In order to apply the TQM concept within the Saudi Library and Information Services (LIS) sector, this study aims to assess the reality of the Saudi ICs' performance based on

the views of managers and members of staff, as well as the commitment of the IC managers to TQM principles.

The quantity and quality of the Arabic literature on LIS management is poor in contrast to the literature available in English due to the late interest in the subject by Arabic researchers. Most of the Arabic literature deals with IC management as a theoretical framework, with a clear lack in terms of field studies. Most of the management theories applied in this literature are old and have already been studied in depth, such as personnel management, resource management, and collection management. Interest in quality management and user satisfaction is rare and has emerged only recently (Alomran, 2010).

The quality literature in LIS shows that there is a gap between the application of the TQM concept in Western countries and Arab countries. Quality literature in Western countries began in the early 1990s, with Arabic literature dating back to only 2002, when it was rare. Different models and tools have been used in an attempt to assist ICs to improve services and increase their users' loyalty and satisfaction, such as ISO 9000, the European Foundation for Quality Management Excellence Model (EFQM), SERVQUAL and LibQUAL. The application of these tools has highlighted the importance of assessing IC services and identifying any points of weakness in their current performance. Various authors in the developed countries have attempted to provide a framework to implement the quality concept in the LIS, such as Brophy (2005), Brophy and Coulling (1996), Hernon and Altman (2010) and O'Neil (1994). Failure of the Arabic LIS researchers with regard, for example, of the application of the quality concept tools

or the transfer of others' experiences, has led to a gap appearing between Arabic and English literature.

The measurement tool LibQUAL was recently used in two university ICs in Saudi Arabia (Abbas, 2005; Alomran, 2010). Other studies have also been carried out (Alhaddad, 2003; Alhemali, 2003; Alqoublan, 2010); however, these studies did not implement any of the performance measurement tools, such as the EFQM Excellence Model. All these studies employed quantitative research methods and did not employ qualitative methods or use a mixed-method approach. There is thus a need to conduct more in-depth studies in order to develop the Arabic literature on this topic and to serve both university ICs and researchers.

### **1.2. Purpose of the Study**

The TQM concept is no longer limited to businesses or profit organisations, but reaches beyond this to all sectors, including the public service sector. TQM has expanded its activities from business services to higher education institutions, and has been implemented in LIS. As Saudi Arabia faces various obstacles in the changing world, this is taking place in an environment of competition for excellence, exclusivity, self-assertion and survival, which necessitates the adoption of new management concepts. With this in mind, this study aims to provide an analytical examination of TQM applications in the Saudi university ICs in terms of principles and theories. Moreover, this study deals with TQM as a new theme in the Saudi LIS literature, which has gained a great deal of importance during recent times (Alqoublan, 2010).

It is expected from this study that new and updated knowledge will be added to the LIS literature, especially regarding the management of ICs. The researcher has noticed growing interest from Saudi universities in the application of TQM programmes in recent years, some of which have established special units to plan and support different quality programmes. This research aims to apply the EFQM Excellence Model (2000) as a tool to measure the actual performance of the services provided by the Saudi university ICs.

The quality literature, as discussed in Chapter Four, shows that the EFQM Excellence Model is associated with improvement in the quality of services. However, despite the wide application of the EFQM Excellence Model around the world, there is a clear absence of the application of this model in the Saudi LIS context. This research can thus be considered as the first application of this model in the Saudi LIS context. The EFQM framework can be used in the Saudi LIS context as an assessment tool to help LIS organisations establish an effective management style through scaling LIS organisations' achievements towards excellence, helping to identify gaps in services, and stimulating solutions (EFQM, 2003). This model also focuses on satisfying the customers, whether internal or external, which in turn improves Saudi IC's productivity and efficiency when applied effectively. Moreover, the EFQM excellence model is a tool for internal strategic assessment according to the principles of TQM, which may help Saudi ICs to identify any weaknesses in their performance; addressing such weakness will further the goal of meeting users' needs and achieving excellence.

This research is an attempt to identify the problems that may face Saudi university ICs during the actual application of TQM, based on the managers and staff views. The aim of

the study was to design and propose the executive steps for the application of TQM concept in the Saudi university ICs and to highlight the critical success factors that may help in the effective implementation of TQM. The application of the TQM concept in Saudi university ICs could help to resolve the problems that prevent them providing high-quality services that meet the needs of their users.

### 1.3. Research Objectives

The current study aims to meet the following objectives:

1. To understand the main principles, tools and techniques of TQM.
2. To identify the key requirements of implementing TQM in LIS organisations.
3. To critically discuss the quality principles and techniques used in the Saudi ICs.
4. To identify the tools and techniques that can be used to manage the Saudi ICs.
5. To identify how TQM is implemented in the ICs of Saudi universities.
6. To identify critical success factors in implementing TQM in the Saudi ICs.
7. To develop a benchmarking tool to assist in evaluating the quality practices in the LIS organisations.

### 1.4 Research Questions

The following research questions were formulated in an attempt to meet the research objectives:

Q1: To what extent is the quality concept implemented in Saudi university ICs?

Q2: What are the differences in quality management practices between the Saudi ICs?

Q3: What are the main elements of TQM in the Saudi ICs?

Q4: What are the critical success factors in implementing TQM in the Saudi ICs?

### 1.5 Research Limitations

This research was carried out in only six Saudi university ICs, namely King Saud University (KSU), the Islamic University (IU), King Fahd University of Petroleum and Mineral (KFUPM), King Abdulaziz University (KAU), King Faisal University (KFU) and Um Alqura University (UAU), all of which date from before 1990. It was discovered during the pilot study that the post-1990 universities have incomplete organisational and administrative structures. Some of the units in the newly-established universities, including ICs, are not yet fully established, and the administrative structures of the ICs in these post-1990 universities are immature. In addition, other considerations led to the decision to narrow the research sample, including time, access, distance and financial considerations. Thus, this study was an investigation of the application of TQM in the ICs in the pre-1990 universities only. More details about the criteria of choosing these universities are presented in section 5.5 (Research Sample).

The targeted population in the quantitative phase of the study was all IC staff in the six universities mentioned above. All staff members were full-time employees (there are no part-time jobs in the Saudi ICs). There were three job titles used in the Saudi LIS



context: Librarian, and Assistant Librarian– who are responsible for the LIS functions – and staff working under the title of “Other”, who are usually responsible for clerical work only. The female participants in the six ICs, all of whom work at separate sites from the male participants, took part in the quantitative phase only. They were excluded from the qualitative part as the researcher is male and males and females are not permitted to interact directly owing to religious and social considerations within Saudi Arabia. To have included female staff in the qualitative part of the study might have resulted in different findings as the women’s perceptions of quality in their ICs might have differed from those of the male staff; this would have enriched the results of the study. Moreover, interviews with female staff might have provided an understanding of the segregated work environment and its affect, if any, on the application of TQM principles. Other Saudi studies of TQM in LIS organisations (Abbas, 2005; Alhemali, 2003; Alhaddad, 2003; Alqoubtan, 2010; Alomran, 2010) also used questionnaires to collect data due to the social and religious considerations discussed above. The targeted population in the qualitative phase of the study were the IC managers and some of IC staff in ICs in three of the pre-1990 universities, namely KSU, KAU and KFUPM. There was insufficient time to investigate ICs in the other pre-1990 universities.

The study focused on the internal processes within the Saudi university ICs aimed at implementing TQM and sought the perception and understanding of TQM among the managers and staff in the Saudi university ICs. Measuring user satisfaction was not one of the study’s objectives; however, involving users in the research would have identified their perceptions regarding the quality of services provided by the Saudi university ICs, and could be considered for future research in this area. Limited time, money and access

during the period of data collection led the researcher to narrow the research sample, excluding users from taking part and focusing on the IC managers and staff only. In this, this study follows that of others in the field that excluded users from being investigated in the implementation of TQM including Al-Musleh (2010), Alnabhani (2007), Alqoublan (2010), Bani Ismail (2012), Twaissi, (2008) and Youssef (2006).

A final limitation of the study was that access to documents was blocked because the ICs under investigation refused to provide sensitive information to an individual from outside the IC.

### **1.6 The Structure of the Thesis**

This study contains nine chapters. The following sections provide a brief description of each chapter in order to provide the reader with a clear picture of the structure of the thesis.

Chapter One presents an introduction to the thesis, the research problem and the purpose of this study. The research questions, objectives and thesis structure are also presented. In this chapter, research limitations are highlighted in order to provide the reader with insights relating to research scope in terms of the research sample investigated in this study.

Chapter Two presents a detailed description of the Saudi higher education system and its objectives, in order to explain the infrastructure of higher education in Saudi Arabia. Moreover, this chapter introduces information about the Saudi pre-1990 universities in terms of specialisations, students, academic staff and other characteristics. This chapter

finishes by describing the university ICs investigated in this research in terms of historical background, administrative systems, staff, services and service quality.

Chapter Three provides a detailed background of TQM, including the ideas of the TQM gurus and thinkers who have contributed to the quality movement. In addition, it presents a discussion of one of the quality models that have been applied in the LIS organisations, which is the EFQM Excellence Model.

Chapter Four introduces the critical success factors of TQM. A literature review that discusses different issues regarding the TQM concept and its applications in different types of organisations, and LIS organisations specifically, is also presented. It also presents a background to TQM applications in public service organisations, TQM applications in Middle Eastern countries, including Saudi Arabia, and ends with a discussion of criticisms of TQM.

Chapter Five provides a description of the research philosophy, the design of the study, and the methods used to collect and analyse quantitative and qualitative data. This chapter explains the procedures followed to gather and analyse data in both phases of the study. It introduces a discussion of the criteria used to identify the research sample in the two phases of the study. The design of the research tools, the pilot study, and research ethics are also discussed. This chapter ends with an explanation of the validity and reliability procedures that were applied in this study.

Chapter Six presents the results from the analysis of the quantitative data. Demographic information on the research sample is given and descriptive statistics are presented in Tables. Following this, participants' responses are analysed and discussed.

Chapter Seven provides the analysis of the qualitative data gathered through interviewing the managers and IC staff in three ICs; KSU, KAU and KFUPM.

Chapter Eight presents a discussion of the quantitative and qualitative results in order to provide an interpretation of the key findings of this study. This chapter presents the TQM elements in Saudi ICs; a benchmarking tool; and critical success factors in implementing TQM in Saudi ICs.

Chapter Nine presents the conclusions of the study. It also discusses the study's contribution to the body of knowledge; makes recommendations; identifies limitations of the research, and suggests areas for further research. Figure 1.1 presents the research framework of this study.

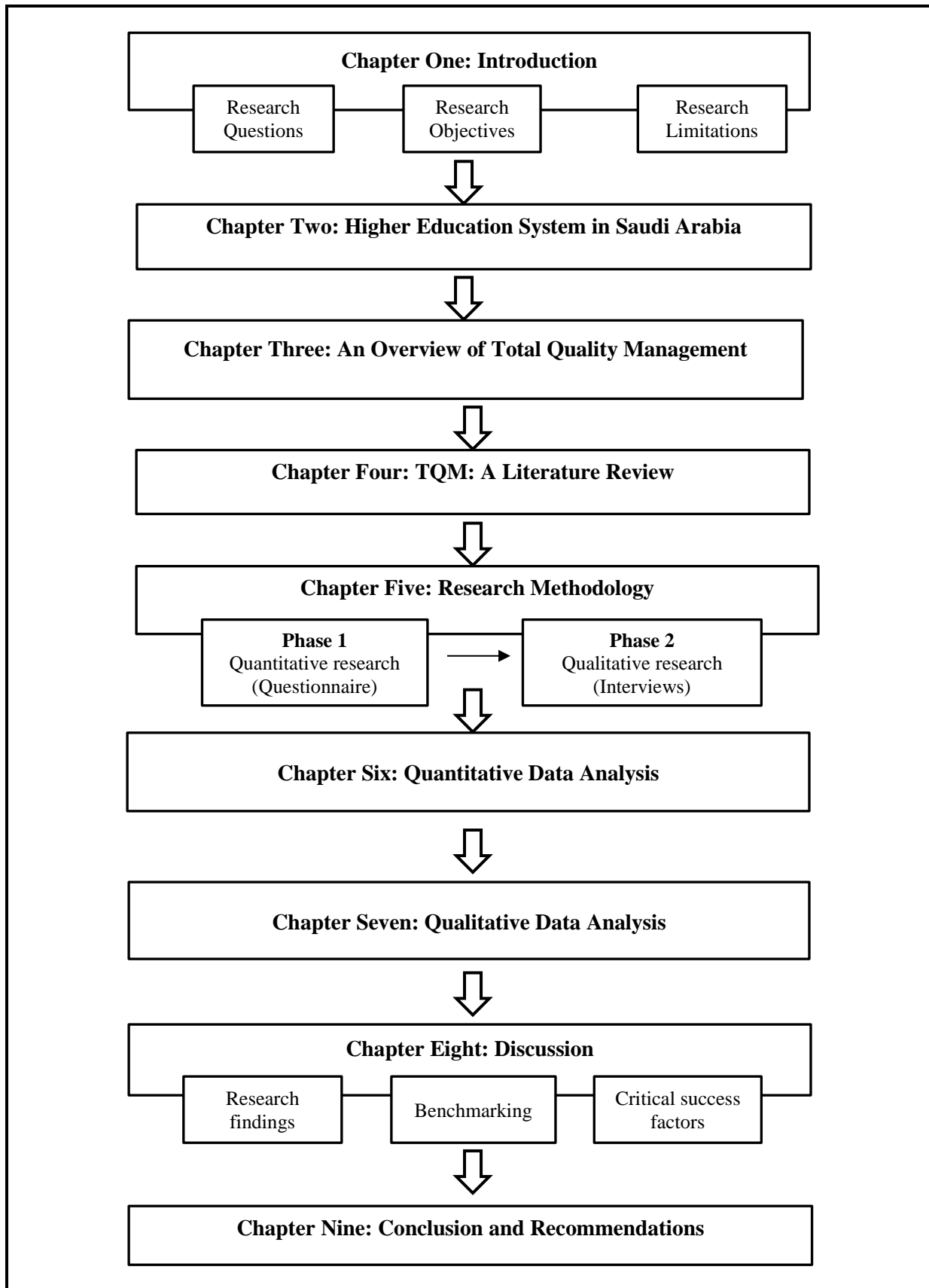


Figure 1.1: Thesis Structure

## 1.7 Definition of Terms

In order to avoid any misunderstanding amongst the readers, the key terms used throughout this study are defined below.

**Critical Success Factors:** Critical success factors refer to those variables that have direct influences on the organisation's effectiveness. These factors must be taken into consideration by organisations in order to contribute to achieving their overall success (Oakland, 2004; Rockart, 1979).

**European Foundation for Quality Management (EFQM Excellence Model):** A framework centred on evaluating the management styles in different types of organisation, developed by the European Foundation for Quality Management in order to assist different types of organisation in measuring their performance and subsequently identifying the gaps in their productivity (Bou-Llusar, 2009). This model is divided into two main criteria, namely Enablers and Results: Enablers measure what the organisation has done to achieve excellence; Results measure what has been achieved in terms of excellence thus far. Enablers and Results are divided into different categories, as follows:

- Enablers: leadership; policy and strategy; people; partnership and resources and processes.
- Results: user results; people results; society results; and key performance results.

**Organisational Culture:** A set of attributes, behaviours and values shared between individuals working within the same organisations (Twaissi, 2008). These attributes shape the environment of the organisation and control the individual's actions.

**Professional Awareness:** Professional awareness in this study refers to individual specialisations in LIS that enable them to develop awareness of the requirements of LIS organisations. Having a background in LIS helps IC staff to understand the IC's needs in terms of service improvement.

**Socio-culture Factors:** A set of values and practices prevalent in a society that subsequently determine patterns of behaviour within the society (Baidoun, 2004).

**Total Quality Management (TQM):** A set of principles, tools and practices designed to help different types of organisation to achieve customer satisfaction through minimising the errors that may appear in a product or service through improving processes within the organisations. It aims to reduce costs and improve the quality of all of work tasks by changing the organisation's culture and individuals' attitudes. Its objective is to design and provide services based on customer needs (Oakland, 2004).

**University Information Centre (IC):** An Information Centre (IC) is a resource centre established, supported, and administered by a tertiary education institution with the aim of meeting the information needs of students and academic staff members. Its objective is to support the teaching programmes and research. The term "information centre" in the Saudi context is a new term owing to the implications of information technology on the nature of the work of Saudi LIS organisations that have realised the new role of libraries in the information era. In this study, IC is a term adopted specifically with reference to a university library.

### Summary

This chapter provides an introduction to the research, including a description of the nature of the research, the research questions, and its objectives and limitations, and presents an outline of the thesis structure to explain the purpose of each chapter. This chapter highlights several obstacles facing Saudi university ICs that may affect the services provided to the users, including the lack of resources and the increasing number of students and academic staff in the Saudi universities. Saudi universities need to search for management tools and techniques in order to improve IC performance and to meet user needs. Implementing a new management philosophy might help ICs in terms of changing management styles, and in establishing a culture that supports service improvement and excellence. TQM has been applied successfully in LIS organisations around the world, for example, Armstrong (1994), Barrionuevo and Perez (2001), Brockman (1992), Hebert (1994), Herget and Hierl (2007), Ho and Crowley (2003) and Lozano and Pacios (1997), and therefore may be suggested as a possible or part solution to the problems facing Saudi university ICs. TQM is a management philosophy that promotes improvement in results through managing internal processes and focusing on improvement in products, which in turn has a positive impact on external results and customer satisfaction. Applying TQM in Saudi university ICs might help them in their efforts towards achieving excellence and in increasing their productivity.

This research is limited to the six pre-1990 universities in Saudi Arabia. Female members of staff were excluded from the qualitative phase (interviews) because of religious and social sensitivities. The next chapter provides a detailed description of the



higher education system in Saudi Arabia in order to help the reader in understanding the current situation and how it affects the university ICs and their services.

## CHAPTER TWO: THE HIGHER EDUCATION SYSTEM IN SAUDI ARABIA

### Introduction

This chapter presents an introduction to the higher education system in Saudi Arabia; it describes the organisational structure in an attempt to outline the research background and provide a clear picture of the Saudi higher education system. It also highlights the objectives of this system and delineates the number of students, academic staff and colleges in each university. Moreover, this chapter provides a detailed description of the university ICs regarding historical background, administrative systems, staff, services and quality practices.

The term “higher education system” refers to education beyond secondary school provided by universities, colleges and community colleges. In the Saudi context, the term “university” refers to those higher education organisations that offer undergraduate courses lasting for four academic years; they are considered to be research institutes as they offer postgraduate courses. “Colleges” in the Saudi context refer to the higher education organisations that offer two-year courses for undergraduates only. In addition, community colleges are governmental educational organisations that provide undergraduate courses, where students pay for their courses. In this study, the term “higher education system” will be used to refer to the education provided by universities only.

### 2.1. The Organisational Structure of the Saudi Higher Education System

The Saudi higher education system comes under the authority of the Ministry of Higher Education (MOHE). The MOHE has the responsibility to plan and develop the higher education system, and to allocate resources accordingly to all its universities. Each university has its own budget to enable it to serve as a centre of knowledge that provides academic degrees and supports research activities. Each university has its own council, comprising the Minister of Higher Education, the University President, Vice President, College Deans and three higher education experts appointed by the Minister of Higher Education. This council has the responsibility to oversee all financial and administrative functions, develop the universities' policies, and make decisions.

According to the Higher Education policy (MOHE, 2013), there is a University President and a number of Vice Presidents for each university. There are identical titles for the University Vice Presidents across the Saudi universities. Most of the universities have four Vice Presidents: one for Administrative and Financial Affairs; one for Postgraduates and Scientific Research; one for Academic Affairs, and a Vice President of Quality. The position of Vice President of Quality has been recently created, due to the interest among the universities in applying quality principles in their departments. Each Vice President is responsible for overseeing several departments within the university and these Vice Presidents report to the University President (MOHE, 2013). The ICs in Saudi universities are usually overseen by the Vice President for Postgraduates and Scientific Research. Figure 2.1 shows the typical administrative hierarchy of Saudi universities.

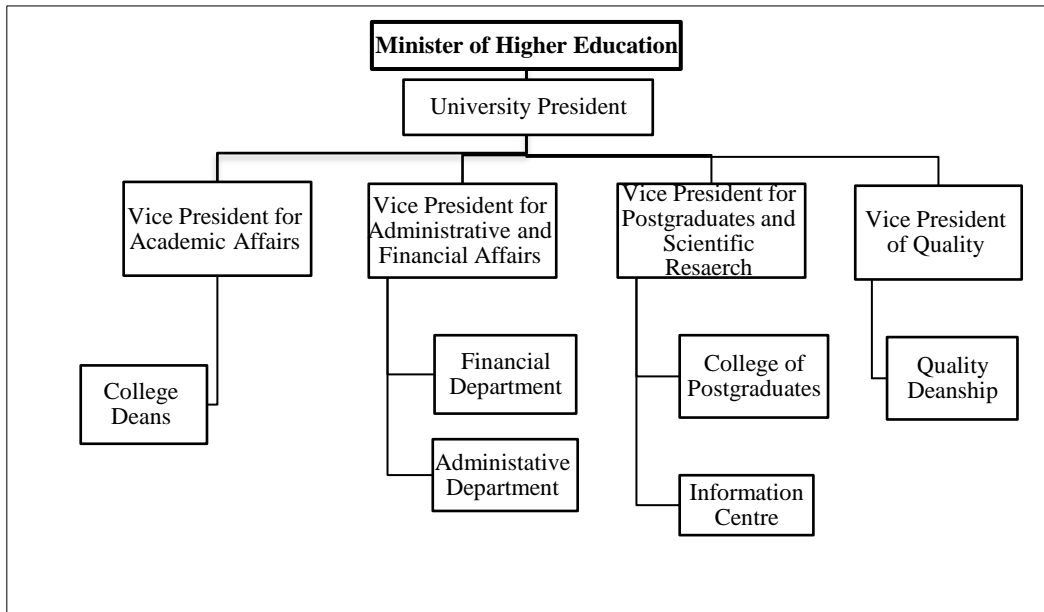


Figure 2.1: Typical administrative hierarchy of Saudi Universities (MOHE, 2013)

The nature of work in all Saudi universities is divided into two main sections, academic and administrative (MOHE, 2013). The academic functions, such as teaching and scientific research, are carried out by the academic staff. In some cases, academics take the responsibility for administrative issues, being appointed as Deans of Colleges and other Deanships such as Student Affairs and Library Affairs (MOHE, 2013). Managers, who are not academic staff, are responsible for carrying out administrative roles. Both academics and administrators are supervised by the University Vice Presidents, who hold positions on the University Higher Council. Each university has its own Higher Council managed by the University President and this council is responsible for identifying strategies and long-term plans for the university and its units.

In the Saudi higher education system, the university administration has the authority to plan and implement educational and administrative plans (Al-Shehri, 2003). Ashoor

(2012) has argued that the management styles in Saudi universities have tended to concentrate power in the university administration only. In recent years, and due to the increasing number of newly-established universities and to changes in management styles, departments within the universities became autonomous in making decisions and setting future plans. However, the university administration retains authority in identifying work procedures in conducting tasks between the different departments. Also, the university administration controls the appointment, promotion and training of staff within university departments (Ashoor, 2012).

Ashoor (2012) indicated that Saudi educational authorities permit educational institutions to implement the most appropriate administrative system that fits with their own objectives. Some Saudi universities permit the IC to be autonomous from the university administration, while others still retain the full authority to manage the IC (Ashoor, 2012). It can be argued that there is no standardised system to control the relationships between the IC and the parent organisation in the Saudi HE system. An autonomous IC has advantages and disadvantages in terms of IC management.

Autonomy gives the IC freedom to implement the appropriate management style that fits the IC objectives, rather than being directed to follow a specific management system that might not be appropriate for it. It also helps to reduce administrative layers and speed up decision-making processes where the decisions are made at the IC level only. On the other hand, this approach may create administrative conflicts between the IC and other units within the university due to differences in management approaches. Also, the IC approach might be inconsistent with university approaches, which may impede communications and affect the implementation of TQM.

Due to religious and social considerations, males and females are educated separately. Thus, girls' colleges were established to educate females at separate sites from males, with female sites administrated by the College Council, which is overseen by the University Council.

### 2.2. Objectives of the Saudi Higher Education System

Saudi universities follow MOHE guidelines and share the same objectives developed by this organisation, including:

- Higher education organisations should develop their policies and strategies according to the country's needs and based on assigned development plans.
- Curricula in each university should be developed based on the Islamic religion.
- Universities are established in each part of the country based on the needs and requirements of these parts.
- The universities are established to enrich teaching and research activities.
- Universities are integral parts that participate in achieving the objectives of the national development plans.
- Universities are responsible for providing a high-quality education to citizens to undertake their responsibilities in economic and social growth, based on Islamic values.
- Universities take responsibility for supporting researchers in different fields of knowledge to contribute in developing scientific research.

- Universities are responsible for providing adequate training and continuous education to students in order to help them to accomplish their goals and participate in the development efforts (Algarney, 2008).

### 2.3. Saudi Universities

In 1949, the higher education system in Saudi Arabia began by establishing a religious college. After this, the Saudi government established seven universities in different parts of the country; this number remained the same until 1998, at which point the government resumed establishing universities. By 2013, Saudi Arabia had 24 universities (MOHE, 2013). These universities differ in terms of specialisation: some are centred on technical, Islamic and health science arenas, while the majority are multi-disciplinary and provide programmes in different fields of knowledge. The Saudi universities can be divided into two categories based on the date of establishment (see Table 2.1).

## Chapter 2- The Higher Education System in Saudi Arabia

**Table 2.1:** Saudi Universities.

	No	University
<b>Pre-1990 universities</b>	1	King Saud University (1957)
	2	Islamic University (1961)
	3	King Fahd University of Petroleum & Minerals (1963)
	4	King Abdulaziz University (1967)
	5	Imam Mohammad Bin Saud Islamic University (1974)
	6	King Faisal University (1975)
	7	Umm Al-Qura University (1981)
<b>Post-1990 universities</b>	8	King Khalid University (1998)
	9	Qaseem University (2004)
	10	Taibah University (2004)
	11	Taif University (2004)
	12	Aljouf University (2005)
	13	Albaha University (2005)
	14	Jizan University (2005)
	15	King Saud University for Health Sciences (2005)
	16	Tabuk University (2005)
	17	Hail University (2005)
	18	Najran University (2006)
	19	Northern Border University (2007)
	20	Princess Norah University for Girls (2008)
	21	Dammam University (2009)
	22	Salman Bin Abdulaziz University (2009)
	23	Shagra University (2009)
	24	Almajmaah University (2009)

The universities can be classified into four categories, based on the programmes and courses they offer:



- **Multi-Discipline Universities:** King Saud University, King Abdulaziz University, King Faisal University, Um Alqura University, King Khalid University, Qaseem University, Taibah University, Taif University, Aljouf University, Albaha University, Jizan University, Tabuk University, Hail University, Najran University, Northern Border University, Princess Norah University for Girls, Dammam University, Salman Bin Abdulaziz University, Shagra University and Almajmaah University.
- **Islamic Universities:** The Islamic University and Imam Mohammed Bin Saud Islamic University.
- **Technological University:** King Fahd University for Petroleum and Minerals.
- **Health University:** King Saud University for Health Sciences.

Some of the units, including ICs, in the post-1990 universities are not yet fully established. Information about these universities is limited, due to incomplete administrative and organisational structures. On the other hand, pre-1990 universities have comprehensive organisational structures as they are well-established and information about them is available. A brief description of each of the seven pre-1990 universities follows.

### ***2.3.1. King Saud University (KSU)***

This multi-disciplinary university was established in 1957, making it the oldest university in Saudi Arabia. It is located in Riyadh, the capital city, with several sites

around the city. The main campus has 20 colleges, providing a wide range of degrees in different fields of knowledge. This university has two sites for females where teaching activities are carried out by female academic staff, and by male academic staff through CCTV. The total number of students is more than 66,174, taught by 5,994 academic staff (MOHE, 2013).

### ***2.3.2. The Islamic University (IU)***

This university was established in 1961 and focuses on Islamic studies only. Its objective is to educate and qualify Muslim students from all over the world to be ambassadors of Islam within their countries. It contains five colleges providing academic degrees in Islamic studies and other related subjects, such as Arabic and Hadith (phrases said by Prophet Mohammad). Through two sites (male and female), this university provides teaching and research activities for more than 30,624 students by more than 1,750 academic staff (MOHE, 2013).

### ***2.3.3. King Fahd University for Petroleum and Minerals (KFUPM)***

This technological university was established as a single college of science and engineering in 1963, and subsequently became a university in 1975. This university's emphasis was placed on petroleum, science and engineering studies, in an attempt to support research in the field of energy and technology (Sinbul, 2005). This university consists of eight colleges with various academic departments in science, technology and

petroleum studies. The total number of students is approximately 16,945 students, with more than 2,107 academic staff (MOHE, 2013).

### **2.3.4. King Abdulaziz University (KAU)**

King Abdulaziz University was established in the City of Jeddah in 1963 as a private institution founded by a group of people who were aware of the important need for higher education for the population of the city (Sinbul, 2005). In 1972, the university came under the authority of the Ministry of Higher Education. It is a multi-disciplinary university consisting of 14 colleges providing various academic degrees in different disciplines. It has a female site that provides different academic programmes and educational services. In some cases, female students are taught by male academic staff through CCTV. This university provides educational services to around 69,919 students by 3,632 academic staff (MOHE, 2013).

### **2.3.5. Imam Mohammed Bin Saud Islamic University (IMBSIU)**

This Islamic university was established in 1974 with the objective of preparing and educating students in different disciplines of Islamic studies – including Arabic, Hadith, Quranic studies and Islamic law – to meet the country's requirements for Islamic scholars. It provides educational services to students from different parts of the world, especially those coming from Islamic countries who wish to be qualified in teaching Islam. This university contains two sites – male and female – and lectures are given to female students by female academic staff or via CCTV by male academic staff. The total

number of students is more than 37,401, taught by more than 2,848 academic staff (MOHE, 2013).

### **2.3.6. King Faisal University (KFU)**

KFU was established in 1975 in the eastern part of Saudi Arabia. It is a multi-disciplinary university with several sites providing different academic degrees in a wide range of disciplines. The female site was established in the same year as the male site, and the opportunities for females in education are almost equal to males. These female students are taught by female academic staff and by males through CCTV. The total number of students is more than 6,445, while academic staff amount to less than 982 (MOHE, 2013).

### **2.3.7. Um Alqura University**

This university is the last university to have been established before the government stopped establishing new universities, due to economic considerations. It is a multi-disciplinary university, established in 1981 in the City of Makkah Almukarramah. UAU contains 23 colleges that provide different academic degrees in different disciplines to males and females through two sites. As per other Saudi universities, female students are taught by female and male academic staff members through CCTV. The total number of students in this university is approximately 8,693 with more than 1,700 academic staff (MOHE, 2013).

## 2.4. University Information Centres

### 2.4.1. *Historical Background*

While the majority of pre-1990 universities are multi-disciplinary, KFUPM is a technical university, and IU and IMBSIU are Islamic universities. The university ICs have to follow their parent institution's policies in information resource acquisition and in providing proper and adequate information resources to the academic community. These universities have a large number of students who need a strong infrastructure to serve them with the best-available information resources. The Saudi government has spent millions of Saudi riyals in establishing new university ICs and developing existing ones to meet the increased demands of the academic community (MOHE, 2013).

Assalim (2010) classified the development of university ICs in Saudi Arabia into three stages:

1. From 1949 to 1965, religious colleges were established, with the ICs having a limited number of poorly designed services and limited resources. In 1957, KSU was established as the first university and its IC was established with limited resources and poor quality services.
2. From 1966 to 1985, university ICs developed their services, such as bibliographical services. The number of university ICs surged, with a significant increase in the number of professional librarians and associated collections.

- From 1986 to the present, there have been major improvements in information services in university ICs, such as databases, service marketing, Online Public Access Catalogue (OPAC) and online reference services.

The Saudi university ICs, discussed here, differ in terms of the number of staff, collection sizes, number of users and quality systems, as can be seen in Table 2.2 (MOHE, 2013).

**Table 2.2:** Characteristics of Saudi University ICs

IC	KSU (1957)	IU (1961)	KFUPM (1963)	KAU (1967)	IMBSIU (1974)	KFU (1975)	UAU (1981)	
IC Sites	19	2	3	3	2	3	2	
IC Managers	4	2	3	5	4	3	2	
Staff	Professional	105	28	40	43	43	23	30
	Other	88	20	12	30	27	25	19
	Total	193	48	52	73	70	48	49
Collection	Different disciplines	Islamic	Science & Engineering	Different disciplines	Islamic	Different disciplines	Different disciplines	
Managers' qualifications	Non LIS qualifications	Non LIS qualifications	High LIS qualifications	High LIS qualifications	High LIS qualifications	Non LIS qualifications	High LIS qualifications	
Quality system	Not found	Not found	Not found	ISO 9001	Not found	Not found	Not found	
Users	Students	66,174	30,624	16,945	69,919	37,401	6,445	8,693
	Academic staff	5,994	1,750	2,107	3,632	2,848	982	1,702
	Total	72,168	32,374	19,052	73,551	40,249	7,427	10,395

It can be seen from Table 2.2 that the ICs have different levels of staffing: KAU and KSU have the highest number of users, with a huge gap between them and other universities; on the other hand, UAU and KFU have the lowest number of users, whether academic staff or students, as these universities are specialised. It is also clear that KAU has the highest number of students compared with the other universities, but a lower proportion of staff compared to the number of users. These seven universities have

female sites, which are located outside the main campus due to the religious and social considerations that prevent females from interacting directly with males. KSU, KFU and IU have a non-specialised management, which is against MOHE's policy (2013) that emphasises that ICs should be managed by highly-qualified LIS academic staff members. There is a huge gap between KSU and the other universities regarding the number of staff, whether professionals or otherwise. KSU is considered the largest leading higher education institution in Saudi Arabia, in terms of academic staff numbers, sites, and research activities (Alhemali, 2003). Moreover, the majority of staff members in KFUPM are professionals, whereas in KFU the number of non-professionals was higher than the number of professionals.

Each university IC has a main central site and several sites at different locations on the campus sharing the same database. The central IC in each university is responsible for all the processes in other small sites, such as acquisitions, cataloguing, processing, and the distribution of staff. The objective of all university ICs is to support research and educational activities and fulfil the information needs of academic staff and students. All these ICs have several units including acquisitions, cataloguing, serials, circulation, special collections and reference services. During the last two decades, university ICs have established new units to deal with new technology, such as information technology units, networks, e-journals and databases. Commonly, these ICs are located at the centre of campuses, which makes them available to all users. The buildings are equipped with a range of facilities to provide better services to the university community.

### 2.4.2. *Administrative Systems*

The current administrative systems in Saudi ICs have an impact on technical operations, users and on IC staff. Assalim (2010) argued that these ICs are still implementing the autocratic management styles and failing to search for new management approaches that might improve services. Assalim (2010) also argued that such ICs have autocratic management styles that do not encourage staff participation and empowerment. Altayyar (2009) summarised the characteristics of the administrative systems in Saudi university ICs thus:

- Old and tall hierarchical structures.
- Central and autocratic administrative systems.
- Marketing systems that are not effective.
- Dispersion in data processing.
- Limited staff participation and empowerment.
- Vast differences between the administrative levels in terms of features and authorities.

The IC Deans are senior managers holding positions within the University Council.

According to MOHE policy (2013), they are responsible for the following tasks:

- Establishing a shared vision that promotes the university's and the ICs' missions.
- Implementing clear and concise strategic plans to advance that vision.
- Communicating internally and externally regarding the university ICs.



- Developing strong relationships with Deans of other units, other university administrators and users.
- Promoting and advocating for IC programmes that address the needs of students, academic staff and the community.
- Planning and development of IC services in support of teaching and learning.
- Maintaining records and statistical data on IC services functions and services and reporting appropriate information to the university Vice President for Postgraduates and Scientific Research.
- Representing the IC in local and national book fairs.
- Ensuring effective IC services organisational structure, including formulation of decision-making groups and committees.

Figure 2.2 shows the typical administrative hierarchy of the Saudi university IC.

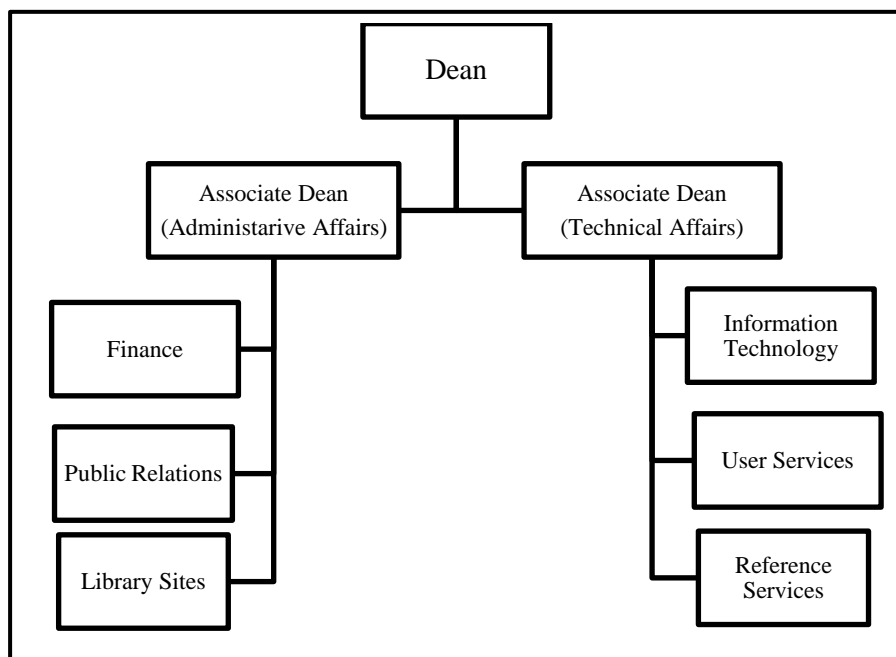


Figure 2.2 The typical administrative hierarchy of the Saudi University IC (MOHE, 2013)

### 2.4.3. *Staff*

As can be seen in Table 2.2, Saudi university ICs have a good number of professional staff, according to the Association of College and Research Libraries standards (ACRL, 2004). Altayyar (2009) pointed out that many non-professional staff members have degrees in disciplines such as Management, Finance, Arabic Language and Computer Science that enable them to undertake other work that does not require the skills of a professional librarian, such as IT, circulation and financial functions. Assalim (2010) has argued that the vast majority of professional staff had been awarded a bachelor's degree in LIS from Saudi universities. He also indicated that library staff members are isolated from teaching activities within the university due to the absence of the concept of the librarians' role in the teaching process.

Alhaddad (2003) provided a set of characteristics of Saudi ICs namely:

- University IC administrations are not convinced that meetings and workshops for staff are important in order to support quality improvement.
- The performances of Heads of Units are not evaluated on a regular basis.
- Administrations do not encourage staff to express their ideas.
- There are no contrasting methods that facilitate the comparison of services between ICs.
- IC administrations do not encourage staff to continue their education.
- Teamwork is not seen as a valid way to improve quality. Each unit in the IC works alone without any coordination with other units.

## Chapter 2- The Higher Education System in Saudi Arabia

- There is no connection between staff and their administrations when the need to search for solutions to work problems arises, or in relation to transferring experience and knowledge.
- All university ICs are centralised organisations, which give the administrations full authority in decision-making and problem-solving processes.

According to Abbas (2005), training programmes provided to IC staff are limited, due to the high number of staff in the Saudi LIS sector and the lack of training programme providers in Saudi Arabia, with the exception of the Institute of Public Administration, which is not capable of providing training sessions of a high quality. This lack of training is likely to impact upon the performance of IC staff in the long-term.

Saudi Arabia is a Muslim society that has social values that affect many aspects of social life. For example, Islamic and local cultural values prevent females from interacting directly with males. This has led to the teaching of female students away from males, and the hiring of female staff to work on female sites. The number of female staff is low when compared with the number of male staff, as females have fewer opportunities in education and employment than males, due to the conservative attitudes of the majority of Saudis towards female education and employment. In the past, Saudi culture supported females playing a traditional role within the home. As a result, females have very restricted opportunities to be educated and employed. In recent years, this attitude has changed, and there is increasing awareness of the need to give females the opportunity to access higher education and to be equal with males, in order that they too can contribute to the overall development of the country (Al-Shehri, 2003).

## Chapter 2- The Higher Education System in Saudi Arabia

According to Assalim (2010), the main problems facing the female sites of Saudi university ICs are due to the limited number of female staff, whether LIS professionals or otherwise. He pointed out that the actual number of female staff in the Saudi university ICs is unknown, owing to the lack of interest amongst these ICs in providing accurate and updated annual reports relating to human resources. The only study to focus on the distribution of IC staff in the Saudi university ICs based on gender was carried out by Basaquer (2010), who found that the number of female staff in the pre-1990 university ICs was lower than for male staff. As stated above, the number of male or female staff in post-1990 universities is unknown, owing to the absence of official reports about human resources in these universities, as well as their incomplete administrative structures. The number of staff in these ICs – whether males or females – is not, therefore, presented. Table 2.3 shows the numbers and percentage of male and female staff in the pre-1990 university ICs.

**Table 2.3: IC staff by gender (Basaquer, 2010)**

No	IC	Male staff	Female staff	Total
1	UAU	35 (72%)	14 (28%)	49
2	KAU	53 (71%)	20 (27%)	73
3	IMBSIU	51 (73%)	19 (27%)	70
4	KFU	38 (79%)	10 (21%)	48
5	KSU	154 (80%)	39 (20%)	193
6	IU	40 (83%)	8 (17%)	48
7	KFUPM	45 (87%)	7 (13%)	52
<b>Total</b>		<b>416 (78%)</b>	<b>117 (22%)</b>	<b>533 (100%)</b>

Table 2.3 shows that female staff in the seven pre-1990 university ICs are in the minority in the universities compared to male staff, at 22 per cent of staff in these seven ICs overall. It is noticeable that UAU has the highest percentage of female staff while KFUPM has the lowest percentage, as this university specialises in Petroleum, Minerals and Engineering studies, which are not popular specialisations for women in Saudi Arabia.

#### **2.4.4. Services**

Disparities in the quality of scientific disciplines of Saudi universities may result in different collection development policies for their ICs, in addition to their impact on the nature of services expected by users in each university.

Saudi university ICs provide different types of information service, such as Online Public Access Catalogues (OPAC); reference services; circulation; searching databases; bibliographic services; indexing; abstracting; and scientific periodical services (Basaqer, 2010). In the 1990s, university ICs began progressively to provide online database services to their users by making them available for the academic staff members only (Alhaddad, 2003). In recent years, these ICs have realised the importance of providing their services remotely to all types of user, and giving students the opportunity to benefit from electronic services, such as databases and online reference services (Alqoublan, 2010).

There has been no cooperation between university ICs in terms of providing services, owing to the absence of government legislation to force them to do so, even though

cooperation would reduce effort and save time and money, which would accrue to the benefit of ICs. KAU IC provides an interlibrary lending service with some ICs within Saudi Arabia, such as KSU and KFUPM; however, this service is not fully active, and KAU has failed in effectively marketing its services (Assalim, 2010)

Providing digital reference services is an important goal for university ICs. Many university ICs around the world have established unions and cooperative systems to provide better services for their users, such as an online reference service (Abbas, 2005; Alhaddad, 2003). However, some Saudi university ICs are still far from achieving this goal, irrespective of its importance. Assalim (2010) argued that the reason behind this is that some believe that their opening hours are sufficient and suitable for the users. However, these working hours, in most Saudi ICs, are limited to between 8 and 12 hours a day, which is not sufficient to serve the high numbers of users. Many users now use new information technology in their search for information. Assalim (2010) concluded that some ICs fail in terms of understanding the nature of the IC mission and do not appreciate how services have, and can be, changed due to recent developments in information technology that facilitate the provision of services to users. Although the provision of a digital service is the aim of many university ICs in Saudi Arabia, Assalim (2010) argued that the efforts made to provide digital services were still limited.

### **2.4.5. Service Quality**

To date, there have only been a limited number of studies on the application of TQM in Saudi HE institutions. Alsuhaime (2012) investigated the implementation of TQM in the Faculty of Education in KSU. Through surveying 125 academic staff members, he found

that there was a correlation between technological resources management and strategic quality practices. He concluded that the concept of TQM supports the accountability imperative by promoting the objectives of the educational process and provides frameworks for continuous improvement. Aladdadi (2012) examined the barriers to implementing TQM in King Khalid University, one of the post-1990 universities, through a survey of 204 academic staff members. He identified a number of barriers to the implementation of TQM in the university, including the absence of a quality culture; the lack of supporting research activities; and the lack of leaders committed to TQM. Al-Alawi (2009), whose work focused on improving Saudi HE through implementing TQM, also concluded that the success of TQM initiatives depended on the senior management commitment, joint efforts from all individuals in the university and continuous improvement. Derbas (2011) suggested that the Saudi authorities could draw on several successful examples of TQM applications from different parts of the world that could be modified to fit the Saudi context in terms of administrative systems and organisational cultures, and stressed that the differences between the management styles and organisational cultures of the Saudi organisations and those in developed countries should not be seen as barriers to implementing TQM.

Based on the studies discussed above, it can be argued that the quality concept is in its early stages in Saudi HE organisations. The absence of a national initiative to disseminate quality principles among HE organisations has led to some universities making individual efforts to implement TQM. The concept of TQM could be beneficial for the Saudi HE institutions due its capacity to provide mechanisms for quality improvement. Previous studies have shown that differences between cultures in management styles and organisational practices were not barriers to implementing

TQM. However, based on the studies discussed above, it can be argued that there are still a number of barriers to implementing TQM in Saudi HE institutions, including the absence of a quality culture, lack of commitment among the managers and lack of staff participation.

It is noticeable that there is a lack of research into the assessment of quality and user satisfaction with the services provided by these ICs, due to the fact that a culture of quality is relatively new to the Saudi university ICs, as well as to staff and senior management (Alomran, 2010). The concept in Saudi university ICs is to provide the best service for users without applying a standardised framework for improving the quality of them, according to Alqouban (2010). These practices are individual efforts made by the senior management of university ICs and staff. Alghamdi (2011) and Ismail (2012) have noted the lack of studies investigating TQM applications in other units within Saudi universities, which leads us to conclude that the Saudi university ICs must have taken the initiative to implement TQM principles and work autonomously from their parent organisations.

Ismail (2012) pointed out that the quality systems currently in use in Saudi university ICs are ineffective, owing to incomplete applications of the quality concept. Those who made the efforts improve services did not adopt the concept of quality, due to the acute shortage of published literature on quality in the LIS sector. The small number of studies available is discussed in the Literature Review (Chapter Four).



### Summary

This chapter has provided an introduction to the higher education system in Saudi Arabia, describing its organisational structure and objectives. It has also presented brief descriptions of the Saudi universities investigated in this study and has highlighted the characteristics of the Saudi university ICs in terms of administrative issues, staff, services and services quality.

It can be concluded that Saudi universities can be divided into four types: multi-disciplinary, technical, Islamic and health universities. The number of female staff working in Saudi ICs (at the female sites) is low compared with the number of male staff due to the conservative attitudes of the majority of Saudis towards female education and employment. The Saudi university ICs provide a wide range of services including circulation, reference services, and bibliographical services; however, only a small number provide digital services.

Chapter Three presents an overview of the TQM and its techniques, principles and gurus.

## **CHAPTER THREE: AN OVERVIEW OF TOTAL QUALITY MANAGEMENT**

### **Introduction**

This chapter presents an overview of TQM principles and techniques. It starts by defining two different terms: quality and TQM, followed by a discussion of TQM gurus and their methods, in order to enrich our understanding of TQM. Subsequently, the European Foundation for the Quality Management (EFQM) Excellence Model is discussed as an example of a key TQM model highlighting its various features.

### **3.1. Defining Quality**

It is important to understand the meaning of the term quality in order to understand the concept of TQM. For Juran (1974), quality is “fitness to use”, which means that customers determine the quality of services. This definition requires identifying the way in which customers use the services and adapt them to fit their needs. According to Juran (1974), quality can be achieved when customers are satisfied with the service, which reflects the orientation to meeting customer needs.

Crosby (1979) defined quality as “conformance to requirements”, which requires identifying service characteristics and determining how far these characteristics meet customers’ requirements. This definition focuses on measuring quality standards, where non-conformance to requirements means that quality is not achieved. On the

other hand, Crosby's definition lacks focus on customer preferences (Rao *et al.*, 1996); it is seen as restrictive, as it does not emphasise the degree of conformance. Garvin (1996) lists eight dimensions of quality as perceived by the customer, namely Performance, Features, Reliability, Conformance, Durability, Serviceability, Aesthetics, and Perceived Quality. According to these eight dimensions, if the service provided by the organisation is rated higher on some of these dimensions than the competition, this means that the service has a high level of quality.

Oakland (2004) argued:

*"If quality is meeting the customer requirements, then this has wide implications. The requirements may include availability, delivery, reliability, maintainability, and cost effectiveness amongst many other features"* (Oakland, 2004: 12).

Another key definition of quality was provided by Feigenbaum (1991) who stated that quality is,

*"the total composite product and service characteristics of marketing, engineering manufacture, and maintenance through which the product and services in use will meet the expectations of the customers"* (Feigenbaum, 1991: 7).

According to Feigenbaum (1991), quality is produced by marketing, research and development, finance and purchasing. Thus, business success requires an integration of all of an organisation's resources, whether technical or human. Deming (1986) believed that quality means meeting the customers' present and future needs. This is similar to the definitions of quality of Juran (1974) and Oakland (2004) both of whom emphasised quality as the most important aspect of customer requirements. It can be concluded that

these definitions focus on customers, except for Crosby (1979), whose focus is directed towards the product's characteristics. It can be concluded 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.

### 3.2. Defining Total Quality Management

TQM focuses mainly on improving performance, achieving customer satisfaction, and fulfilling the organisation's objectives. British Telecom's understanding of TQM breaks down the term into three parts, where *total* means that all individuals in the organisation are involved; *quality* refers to meeting the customers' needs with the lowest cost from the first time, and management means that this process is led by senior management and so begins at the top and flows down to the lower levels of the organisation (Kelly *et al.*, 1991).

The British Standards Institute (BSI, 1992), provided a comprehensive definition of TQM as follows:

*"A management philosophy and company practices that aim to harness human and material resources of an organisation in the most effective way to achieve the objectives of the organisation"* (BSI, cited in Bell *et al.*, 1994: 46).

Deming (2000) believed that TQM is a management concept that focuses on customers through identifying and meeting their present and future needs. Juran (1995) viewed customers as individuals influenced by an organisation's processes and products. He also promoted the concept of external customers (consumers), who are influenced by

the organisation's products, and internal customers or (employees), who are part of the organisation.

Notably, Crosby (1979) defined TQM as follows:

*"A systematic way guaranteeing that organised activities happen the way they are planned. It is a management discipline concerned with preventing problems from occurring by creating attitudes and controls that make prevention possible"* (Crosby, 1979; 19).

Oakland (2004) described TQM as

*"A comprehensive approach to improving competitiveness, effectiveness 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 focuses on prevention rather than inspection. It is useful in all types of organisations"* (Oakland, 2004: 58).

According to Flynn *et al.* (1994), TQM is:

*"An integrated approach to achieving and sustaining high quality output, focusing on the maintenance and continuous improvement of processes and defect prevention at all levels and in all functions of the organisation, in order to meet or exceed customer expectations"* (Flynn *et al.*, 1994: 339).

Zairi and Youssef (1995) defined TQM as

*"A positive attempt by the organisation concerned to improve structural, infrastructure, attitudinal, behavioural and methodological ways of delivering to the*

*end customer, with emphasis on consistency improvements in quality, competitive enhancements, all with the aim of satisfying or delighting the end customer". (Zairi and Youssef, 1995: 5)*

The diversity in defining the term "quality" is reflected in the various definitions of TQM and is due to differences in the researchers' approaches to quality. As can be seen from the review of definitions, it is clear that TQM is a philosophy focusing on the customer that allows employees to participate in the planning of continuous improvement and the meeting of customers' needs. Shim and Siegel (1999) defined the main elements of TQM as including customer focus; senior management commitment and support; staff empowerment; communication; performance measuring; training; and staff motivation. The definitions show that TQM is not a set of techniques but a management approach, and a culture that aims to shift thinking and processes within the organisations.

The definitions in this section and Section 3.1 have highlighted the difference between "quality" and "TQM", Quality focuses on short-term processes, while TQM is a long-term process involving all the individuals in an organisation taking responsibility for their part in improving processes, and planning and designing services that meet customer requirements.

### **3.3. TQM Gurus**

The early development of the quality concept and the application of TQM around the world have been strongly influenced by the ideas of various TQM-related thinkers, including Crosby (1979), Deming (1986), Feigenbaum (1991), Ishikawa (1990) and

Juran (1974). These ideas have helped us understand the principles of TQM (Kruger, 2001), and these thinkers are considered the most important gurus of the TQM movement (Kristal, 2010). Most of the successful applications of the TQM concept around the world have been based on the ideas of these thinkers. Thus, it is essential to understand their ideas in order to provide a background to TQM, as well as to highlight their contributions to establishing the principles of TQM. The next sections discuss the ideas of these thinkers and their contributions in the TQM literature.

### **3.3.1. Edward Deming**

Deming was the first quality-related thinker to introduce quality principles to the Japanese, with the aim of rebuilding their economy after World War II. He focused on four points: *plan, do, check, and act*. He also identified “*the seven deadly diseases*”, which are the most serious barriers that management face, including:

*“Lack of constancy of purpose, emphasis on short-term profits, evaluation by performance and merit rating or annual review of performance, mobility of management, running a company on visible figures alone, excessive medical costs, and excessive costs of warranty fuelled by lawyers who work for contingency fees”*  
(Deming, 2000: 98).

He summarised his philosophy of TQM in the form of 14 points, which became actions to be adopted by senior management, namely:

1. Create constancy of purpose towards improvement.
2. Adopt the new philosophy.

3. Cease dependence on inspection.
4. Move towards a single supplier for any one item.
5. Improve constantly and forever.
6. Provide training on the job.
7. Establish leadership and supervision.
8. Drive out fear.
9. Break down barriers between departments.
10. Eliminate numerical goals.
11. Eliminate management by objectives.
12. Remove barriers to pride of workmanship.
13. Establish education and self-improvement.
14. The transformation is everyone's job.

Deming's 14 points have strengths and weaknesses. He stated that management comes before technology, and emphasised leadership, recognition and motivation. The American and Japanese cultures responded to Deming's theory differently: where the Americans prefer individualism, the Japanese prefer group work. However, these two different cultures were both convinced that Deming's theory provided a set of criteria that would enable any organisation to measure its performance. Deming also provided the PDCA cycle (Plan-Do-Check-Act) (Figure 3.1) as an approach to continuous improvement, and made it an integral part of the quality concept. His model was a model for service improvement and an approach to find causes of variation in the processes (Oakland, 2004).



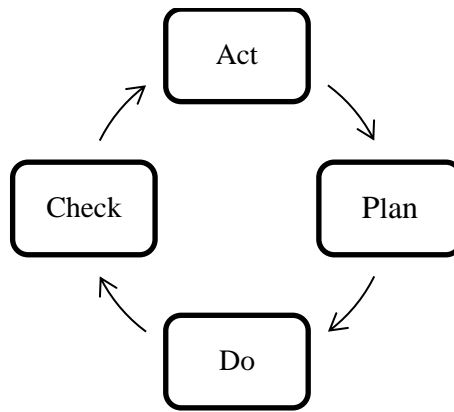


Figure 3.1: Deming's Cycle

In recognition of Deming's contribution in developing the Japanese quality concept, the Deming Prize was established in 1951, which is considered to be the most important quality award in Japan (Katsioloudes, 2006).

### 3.3.2. Armand Feigenbaum

Feigenbaum was the first quality-related thinker to introduce total approaches to quality issues. His ideas are not limited to any particular area within an organisation, but should be implemented at all levels. He defined TQM as

*"An effective system for integrating quality development, quality maintenance, and quality improvement efforts of the various groups in an organisation so as to enable production and service at the most economic levels which allow customer satisfaction"* (Feigenbaum, 1991; 5).

Moreover, he emphasised that quality is a strategic tool that requires the involvement of all individuals in the organisation in quality efforts. Feigenbaum (1983) limited his

focus to the quality of the products or service produced by the organisation. He presented three main elements to his philosophy, including a full understanding of the market; developing a quality strategy to satisfy customers; and developing a quality culture that promotes quality leadership.

### **3.3.3. Joseph Juran**

Juran (1974) stressed that senior management must be responsible for presiding over the quality effort within the organisation. He also focused on the importance of communication and advocated that senior management must recognise people's work in order to reflect the changes required in implementing the quality concept. His approach became known as "Juran's Trilogy", which is composed of three main processes: planning, control, and improvement. Quality planning begins with identifying the customer, including both internal and external customers. When referring to quality control, Juran suggested that efforts must be directed towards the critical elements which need to be controlled; this requires identifying methods of measurement and establishing standards. The objective of quality improvement is to reduce chronic waste as far as possible.

Juran (1974) pointed out that quality control should be delegated across the organisation, especially to those responsible for doing tasks. This delegation requires the provision of appropriate training schemes in problem-solving techniques to all employees. He stressed that all the individuals in an organisation are responsible for quality — not just the quality department. He focused on the errors, and the time lost by

such errors, more than on quality itself. Juran (1974) and Deming (1986) both agreed that quality problems are commonly attributed to managers, rather than employees.

### ***3.3.4. Philip Crosby***

Crosby (1979) believed that the objective of quality is zero defects, and defined quality as “conformance to requirement”. He focused on the cost of quality and the price of the conformance and non-conformance. He offered 14 steps geared towards achieving continuous improvement. Crosby (1979) focused on human and organisational development more than statistical methods. Crosby’s 14 points are as follows:

1. Management commitment
2. Quality improvement teams
3. Quality measurement in all activities
4. Cost of quality evaluating
5. Quality awareness in all administrative levels
6. Taking corrective actions to improve quality
7. Zero defects planning
8. Quality training
9. Zero defects day
10. Goal setting
11. Error cause removal
12. Recognition

13. Quality councils

14. Do it over again.

Crosby (1979) also developed a maturity model referred to as the Quality Management Maturity Grid, and listed five levels in the model, namely uncertainty, awakening, enlightenment, wisdom and certainty. In the uncertainty level, management fails in understanding the quality benefits for their organisation and no efforts are made for quality improvement. On the other hand, the organisation in the fifth level, certainty, is where quality principles are understood by all the individuals within the organisation and quality activities are organised.

### ***3.3.5. Kaoru Ishikawa***

Ishikawa (1990) contributed to quality management by focusing on statistical quality control. He proposed the cause and effect (Fishbone) model, which identifies complex problems and breaks them down into smaller problems that can be resolved more easily. Ishikawa (1990) believed that the Fishbone model provides good learning opportunities through interaction between the employees in an organisation. Figure 3.2 depicts Ishikawa's model.

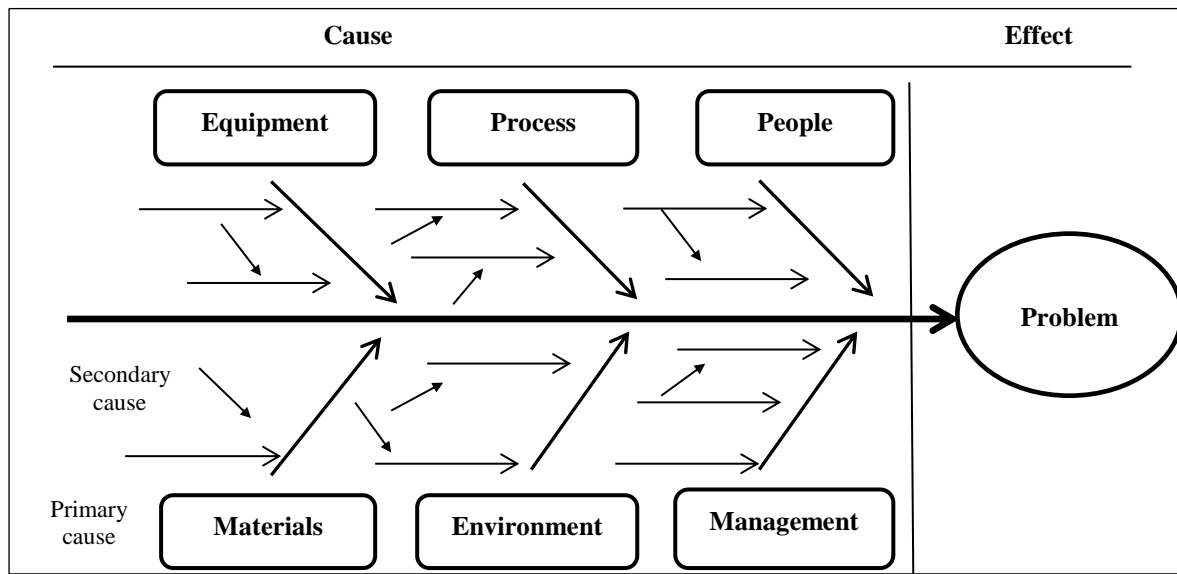


Figure 3.2: Ishikawa's model (Fishbone)

Ishikawa's philosophy relies on education, where educated employees have the ability to understand and resolve problems and implement solutions with management support. He focused on statistical tools and described these tools as indispensable for quality control (Bank, 2000).

### 3.3.6. Summary of the Ideas of TQM Gurus

There are different opinions amongst TQM gurus for a number of reasons. The first concerns the term TQM itself. Deming (1994) said: *"the trouble with TQM is that there is no such thing, it is a buzzword. I have never used the term, as it carries no meaning"* (Deming, 1994: 22). This resistance from the quality gurus reduced people's willingness to use the term TQM (Al-Musleh, 2010). Secondly, there are a number of similar terms used, such as Total Quality Improvement and Total Quality Control, which may

discourage some people from using the term “TQM” itself. Thirdly, Al-Musleh (2010) pointed out that there are many vague descriptions of TQM, with TQM being defined as “a way of”, “a philosophy for” or “an approach for”.

There is agreement amongst the quality-related thinkers on the need for continuous improvement, setting goals, communication and providing sufficient and effective quality training. According to Deming (1986), quality means continuous improvement and targets zero defects. Juran (1974) focused on fitness for use, and Crosby (1979) focused on conformance and non-conformance to requirements. Due to the contributions of these key thinkers in the quality movement and the importance of their ideas, Deming, Juran and Crosby’s ideas will be compared in order to understand the differences between their philosophies and their perceptions of the quality concept. Despite the differences between the ideas of these thinkers, there are some shared features, including:

- Senior management is responsible for commitment to quality, leadership, empowerment and supporting processes within the organisation. In addition, senior management should establish a quality culture that supports staff empowerment and participation through changing the individuals’ attitudes and reducing employees’ resistance to change in the management style.
- Training should be emphasised in order to change employees’ behaviours and attitudes, and to enrich their knowledge, so that they are more able to carry out their duties.
- Recognition and rewards are essential in the quality environment in order to motivate employees to participate effectively in improving services.

## Chapter 3- An Overview of Total Quality Management

- Products or services should be designed based on customer needs, and inspection is necessary in order to evaluate the product and to discover the extent to which the product meets customer needs.
- TQM is a comprehensive management style that involves all activities within the organisation from suppliers to customers.

Table 3.1 shows a comparison of these three quality gurus, Deming, Crosby and Juran.

**Table 3.1:** Comparison of quality gurus' ideas

	<b>Deming (1986)</b>	<b>Crosby (1979)</b>	<b>Juran (1974)</b>
<b>Definition</b>	Continuous improvement	Conformance to requirements	Fitness for use
<b>Application</b>	Manufacturing-driven organisations	People-driven organisations	Technology-driven organisations
<b>Target audience</b>	Employees	Employees	Management
<b>Scope</b>	Tools/system	Motivational	Measurement
<b>Tools</b>	Statistical Process Control (SPC)	Minimal use	Analytical, decision making and cost of quality

### 3.4. The European Foundation for Quality Management Excellence Model (EFQM)

TQM models can be divided into two categories: models offered by quality experts and those offered by quality awards. In this study, the focus is placed on one of the quality models, the European Foundation for Quality Management Excellence Model (EFQM).

In 1992, the European Foundation for Quality Management established the European Quality Award, with the aim of reviewing operations within organisations. This model is based on the process by which organisations release the talents of their employees to improve results. It is designed to increase the awareness of quality in European countries and thereby improve European organisations' competitiveness in the highly-competitive global market. Moreno-Rodriguez *et al.* (2013) pointed out that a self-assessment technique presented in the EFQM Excellence Model is useful for organisations in monitoring, assessing and improving the organisation's performance. Figure 3.3 shows the EFQM Excellence Model.

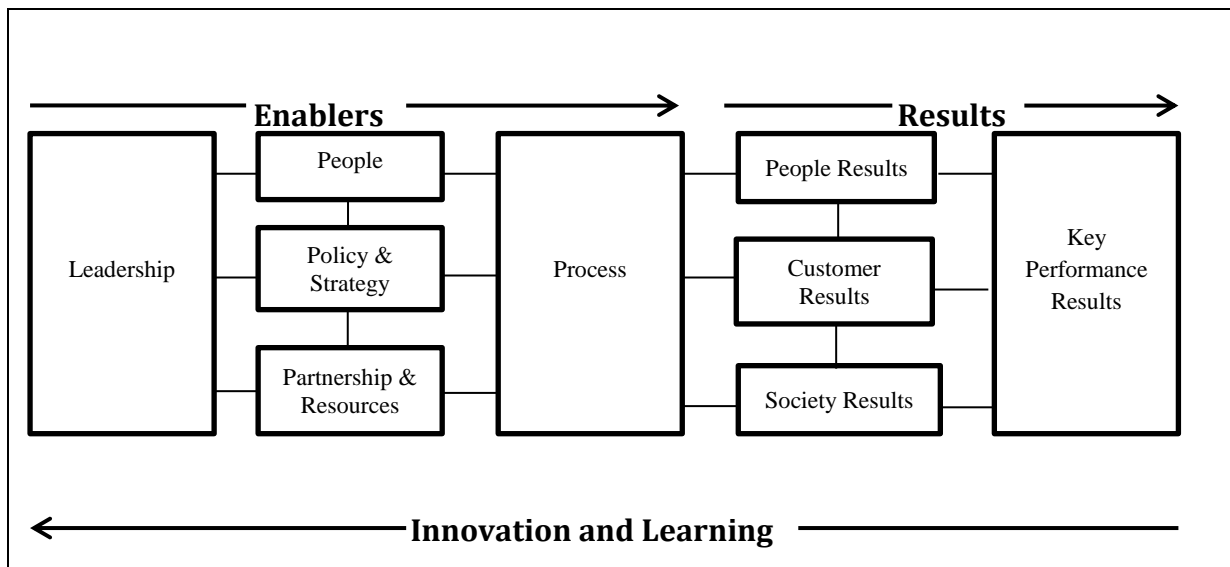


Figure 3.3: The EFQM Excellence Model (EFQM)

The EFQM Excellence Model comprises nine categories, as shown in Figure 3.3. There are five enablers that drive the transformation of inputs to outcomes, and four categories of results, to measure the level of an organisation's achievement of excellence. People results, customer results, society results and key performance results



can be achieved through leadership, policy and strategy, partnership and resources and process, which lead to ultimate excellence in performance (Moreno-Rodriguez *et al.*, 2013).

The EFQM Excellence Model has the ability to improve the organisation's performance through a flexible self-assessment tool based on the organisation's needs. It has been applied in different public service and commercial sectors. Several researchers have described the EFQM Excellence Model as an effective model that provides practical guidelines to help different types of organisations to implement TQM (Bou-Llusar *et al.*, 2009; Kim *et al.*, 2010).

Johannsen (1995), Jones *et al.* (2000) and Diaz *et al.* (2005) recommended implementing the EFQM Excellence Model in LIS organisations owing to its ability to evaluate and assess IC performance. This model has been applied successfully in different studies in the LIS literature such as Barrionuevo and Perez (2001); Herget and Hierl (2007); Lozano and Pacios (1997) and Mohamadesmaeil *et al.* (2011).

#### **Summary**

This chapter outlined the concept and practices of quality. The first part of the chapter presented definitions of quality and TQM in order to differentiate between these two related terms and to show the scope of each term. The terms 'quality' and 'TQM' were shown to have different meanings: quality focuses on short-term processes, while TQM is a comprehensive and long-term process that requires the involvement of all employees in the organisation in service improvement efforts.

### **Chapter 3- An Overview of Total Quality Management**

Quality gurus have shaped the concept and practices of TQM. However, these quality gurus developed their ideas in industrial and commercial sectors that are very different from the public service sectors. In addition, their ideas were influenced by the cultural and managerial needs of Western and Japanese societies that are clearly different from a developing society, such as that of Saudi Arabia, which is the focus of this study. It can be concluded that the ideas of the quality gurus, as discussed in this chapter, all recognise the importance of continuous improvement, setting goals, quality training, communication, and the dissemination of results. In addition, this chapter presented the EFQM Excellence Model and its criteria, and set out how it might help different types of organisation to achieve excellence in performance.

Chapter Four discusses the critical success factors of TQM from a review of the TQM literature.

## CHAPTER FOUR: TQM: A LITERATURE REVIEW

### Introduction

This chapter presents a discussion of the TQM literature with an emphasis placed on TQM applications in LIS. The chapter is divided into several sections: the first section discusses TQM concept applications in public service organisations and how this concept has been transferred from the industrial and commercial sectors. The second section discusses TQM in the global context, while the third section focuses on TQM in Middle Eastern countries. The fourth section discusses the critical success factors in implementing TQM in the LIS sector; while the fifth section presents TQM applications in the Saudi LIS context. The sixth section presents the currency of the TQM concept in scholarly research and practice. The seventh section introduces criticisms of TQM. Finally, the eighth section presents a discussion and summary of the literature review.

### 4.1. TQM in Public Service Organisations

TQM has emerged as one of the major developments in management concepts since the 1980s (Abbas, 2005). TQM was first introduced in the USA in the 1980s, as a response to challenges from Japanese companies. In Western countries, TQM has been recognised as a source of competitive advantage that organisations cannot ignore (Dean and Bowen, 1994).

Following the success of TQM in the commercial and industrial sectors, TQM has been applied in the public service sector (Oakland, 2004). The quality literature has discussed the applicability of TQM to public service organisations from a number of different points of view. Abbas (2005) argued that TQM had been developed by the gurus in the context of quality in the commercial and industrial sectors and might not be appropriate for public service sector. Butterfield (1991) and Sullivan-Taylor and Wilson (1996) argued that implementing TQM in public service organisations is more difficult due to the fact that the nature of service quality is intangible and the frequency of interfaces leaves the organisations open to a higher risk of inconsistencies and more difficulties in control. Deming (1986) identified the key differences between manufacturing and public service organisations and the impact of directly interfacing with customers by stating:

*“A production worker in manufacturing not only has a job, he is aware that he is doing his part to make something that somebody will see, feel and use in some way. In contrast in many service organisations the people that work there only have a job and are not aware that they have a product and that product is service”*  
(Deming, 1986: 245).

Several studies concluded that there are a number of challenges in implementing TQM in public service organisations due to differences in the nature of their activities from the commercial organisations. The outputs of the commercial and industrial sectors are standardised and more measurable in contrast to the outputs of those in the public service sector (Sureshchandar *et al.*, 2001). Public service organisations may face difficulties defining customers' needs and expectations and how they perceive the

quality of service (Salaheldin, 2009). Moreover, differences in terms of operational systems, consumption, and delivery processes between public service organisations and those in the industrial and commercial sectors are among the other problems in applying TQM to public service organisations (Curry and Kadasah, 2002; Salaheldin, 2009).

On the other hand, the literature shows that TQM focuses on conceptual rather than practical aspects (Oakland, 2004). TQM is now increasingly accepted as a management philosophy that can be beneficial to public service organisations (Dean and Bowen, 1994; Prajogo, 2005). Sitkin *et al.* (1994) suggested that TQM can be applied successfully in different environments, including public service organisations. Moreover, the development of TQM has emphasised that individuals' attitudes that are related to the public service sector include leadership, customer focus, and empowerment; its application in the public service sector has thus been encouraged. Finally, in support of the previous arguments, Silvestro (1998) has suggested that "*the core principles of TQM are highly relevant to services, although the concepts are developing and evolving in different ways in the service literature*" (p. 321).

Several studies have investigated the differences between industrial and public service organisations in implementing TQM. Beamont *et al.* (1997) investigated 85 public service organisations and 261 manufacturing companies and concluded that public service organisations use fewer TQM techniques, especially those to do with statistical process control. Woon (2000) investigated 240 Singapore organisations that had received Quality Awards and found that manufacturing companies showed a higher level of TQM implementation than public service organisations for process

management, information and analysis, and quality performance. However, Woon (2000) concluded that there was no significant difference between the organisations and companies investigated regarding human resources, leadership, and customer orientation. Based on Woon's results (2000), it can be argued that the "soft" aspects of TQM, which are related to the behavioural side of management, can be applied to public service organisations. Huq and Stolen (1998) investigated the applications of TQM in 18 manufacturing and 18 service companies based on 19 dimensions of TQM. They concluded that the public service organisations applied some of the TQM principles, while manufacturing organisations applied the full range of TQM principles. However, they found that there was no significant difference between public service and manufacturing organisations regarding mission statement, management commitment, customer orientation, communications and empowerment. This shows that some of the TQM principles can be applied to public service organisations.

The literature has also suggested that TQM has advanced beyond simply capturing tools and systems (such as ISO 9000), and its focus has shifted to conceptual rather than practical aspects (Oakland, 2004). Therefore, although initially introduced in a prescriptive and highly practitioner-oriented form, TQM is a management philosophy that embodies a set of generic core principles which are unconstrained by industry-unique considerations (Dean and Bowen, 1994; Grant *et al.*, 1994). The recent arguments concerning TQM have supported the contingency model of the application of TQM core principles into different environments (Sitkin *et al.*, 1994). This argument lays a fundamental ground to support the applicability of TQM in public service organisations and therefore provides opportunities for them to benefit from implementing TQM without necessarily forcing the use of its tools and techniques which

are not compatible to the public service sectors. Finally, in line with these positive arguments, Woon (2000) suggested that several public service organisations have a similar model of operations or processes to manufacturing, termed as “manufacturing-oriented services” (also known as mass services), which would make them able to adopt TQM principles and practices.

The use of TQM in LIS started in the late 1980s. Early studies showed that the TQM approach was not successful in some libraries (Brockman, 1992). Pilling (1997) argued that nearly two-thirds of British industry had introduced quality concepts, but only 8 per cent of organisations were rated as successful. Pilling (1997) also believed that several principles of TQM are relevant for LIS organisations, including customer focus; empowerment; staff involvement; process rather than function; and continuous improvement.

The important question is whether TQM brings desirable features together and provides techniques for achieving performance improvement. Alomran (2010) has argued that several LIS organisations have claimed considerable success in implementing TQM, although time is needed if full success is to be achieved.

Byrd (1998) investigated TQM implementation in three community college libraries in the USA and concluded that the leadership role is vital in promoting the goal of continuous improvement among staff. She also indicated that TQM has the power to transform LIS organisations in the following categories: management, cross-training, staff development, and technology.

Adamantidou and Kouri (2000) presented an example of implementing TQM in the central library of the National Technical University of Athens in Greece. They concluded

that there was no perfect example of the implementation of TQM and also no perfect model of reorganisation. They believed that adopting TQM should be connected with the internal culture and the external environment of LIS organisations.

Alemna (2001) focused on the importance of marketing and TQM in libraries in Ghana in the context of increasing numbers of users of all types of libraries and users' demand for a better quality service. She concluded that LIS organisations in Ghana were facing great challenges and suggested that the adoption of TQM principles, together with the employment of marketing strategies, could be a possible solution to save the LIS organisations from imminent collapse.

Whitlatch (2003) discussed the current and future implementation of TQM in reference services. He concluded that the following TQM principles should be utilised in order to improve the services: customer focus; doing the job right at the first time; continuous improvement; and teamwork. In addition, Wang (2006) concluded that TQM is able to provide a framework for developing new strategies in LIS organisations facing contemporary changes.

To conclude, the concept of TQM is a management philosophy can be applied in most sectors, and LIS is no exception. TQM application in public service sectors such as LIS started in the late 1980s as a method of meeting the increasing requirements and expectations of users. This concept became increasingly relevant in the 2000s, due to the application of information technology in LIS organisations and changes in the requirements of users (Abbas, 2005). TQM can be used as an organisation-wide technique to help a public service organisation to improve its performance, create a change of culture, introduce teamwork and gain management commitment to quality.



## 4.2. TQM in Developed and Developing Countries

The objective of Global Quality Management (GQM) is to understand quality management practices across the world. GQM was introduced by Kathawala and Nanda (1989) as the first strategy to address this issue; however, its importance, definition and principles were not introduced until six years later by Kim and Chang (1995) who argued that more systematic research was needed to be conducted in this area. They defined global quality management as involving strategic planning and the best combination of processes and products within organisations to satisfy customer needs and increase organisational effectiveness across the global market (Kim and Chang, 1995).

Global quality management aims to develop guidelines to evaluate quality management practice across countries (Rao *et al.*, 1999). It also affects quality management practices from the national to the global level (Kim and Chang, 1995; Chase, 1998), and aims to help organisations to be competitive in the global market (Chase, 1998; Dervitsiotis, 2001; Liu and Kleiner, 2001). In order to achieve this, someone needs to assume the leadership role in the organisation (Feigenbaum, 1994). GQM was perceived as a benchmarking tool for achieving competitive advantage (Jarrar and Zairi, 2001), and forms a basis for business performance improvement (Feigenbaum, 1997).

Early studies on global quality practices focused on a number of developed countries, such as the USA and Japan (Ebrahimpour and Johnson, 1992; 1986; Flynn, 1992). The quality literature has been extended more recently to compare quality management practices in developing countries with those in developed countries, such as India (Rao *et al.*, 1997; Sarker, 1990; Jagadeesh, 1999), Denmark (Dahlgaard *et al.*, 1990),

Singapore (Sohal *et al.*, 2003), and Asia and the South Pacific (Corbett *et al.*, 1998).

While previous studies focused on quality management practices between countries, there is also interest in understanding the practice of quality management within different countries, including Greece (Tsiotrs and Gotzamani, 1994), Korea (Lee, 1998), and Turkey (Beskese and Cebeci, 2001).

The majority of studies mentioned above aimed to identify the critical success factors of TQM. Critical success factors for TQM (CSFs) were defined as “*critical areas of managerial planning and action that must be practiced to achieve effective quality management in business unit*” (Saraph *et al.*, 1989: 812). Sila and Ebrahimpour (2003) argued that the question regarding the universality of TQM has not yet been answered, and more cross-country research on quality management is needed. A number of empirical studies have been carried out in Middle Eastern countries (Al-Sulimani and Sharad, 1994; Al-Khalifa and Aspinwall, 2000; Al- Zamany *et al.*, 2002), and in Africa (Perry, 1997; Thairu, 1999; Beugre and Offodile, 2001; Temtime, 2003). The aim of these studies is to reach a global model for quality management practices. Despite all the previous studies, Bani Ismail (2012) and Twaissi (2008) have argued that TQM is still in the early stages of theory development. It is not part of operations management, but has become an independent discipline (Dale *et al.*, 2001). The generalizability of TQM in the global context needs to be investigated, in terms of its practice in different parts of the world that have not yet been studied widely, including the Middle East.

As this research was conducted in Saudi Arabia, which is a developing country, it is worth discussing some of the obstacles that may face TQM implementation in these countries in which the application of the TQM concept has only recently begun (Taddese

and Osada, 2010). The implementation of quality management in Middle Eastern countries has not been at the same rate as that in developed countries (Al-Khalifa and Aspinwall, 2000). However, while awareness of TQM and its benefits for productivity and competitiveness had previously been limited, interest in TQM in these countries has recently increased (Alomran, 2010). Two main factors forced developing countries to implement TQM, namely globalisation and the fluctuation of petroleum prices in world markets (Al-Khalifa and Aspinwall, 2000). The national economies of most Middle Eastern countries, including Saudi Arabia, are highly dependent on the price of oil; the cyclic rise and fall of petroleum product prices encouraged these countries to implement TQM in a range of sectors, including the industrial, commercial and public service sectors, in order to improve the efficiency and productivity of organisations (Al-Khalifa and Aspinwall, 2000).

Al-Khalifa and Aspinwall (2000) have argued that little attention has been paid in the quality literature to Middle Eastern countries. The TQM literature reveals a lack of information about the nature and stage of TQM implementation in some parts of the world, including the Middle East (Sila and Ebrahimpour, 2002). Despite the number of publications and the amount of research into TQM, a limited number of studies have been carried out in developing countries, particularly in the Arab world, and Saudi Arabia in particular (Abbas, 2005). The literature identifies a number of gaps in quality management in developing countries along with common challenges, including different perceptions of quality, the legacy of colonization and protectionist policies and tight governmental controls (Gosen et al., 2005).

Developing countries as a group, compared with the developed countries, have unique environmental conditions, which should be taken into account in implementing TQM (Mersha, 2000). Al- Zamany *et al.* (2000) stressed that management approaches that are seen as essentially western in origin are viewed with some suspicion in many Middle Eastern and Islamic countries, which can be a barrier to the acceptance of TQM. Lakhe and Mohanty (1994) have pointed out that many organisations in developing countries face difficulties that might hinder the implementation of TQM, including:

- Lack of employee involvement and participation
- Lack of a long-term management commitment
- Traditional belief that quality costs money
- Lack of political support
- Lack of established quality standards
- Obsolete technologies
- Low level of education.

An international quality conference held in Bahrain in 1990 was considered to be the first attempt to move towards quality management in the Middle East (Dedhia, 2001). In 1994, empirical studies appeared on the implementation of quality management in Middle Eastern countries. Al-Suleimani and Sharad (1994), Aly (1996), and Zairi (1996) addressed the barriers facing organisations in this region in implementing TQM. A limited number of empirical studies were carried out at a national level; the first study of this kind was that carried out in Qatar by Al-Khalifa and Aspinwall (2000). The authors of the study concluded that the level of awareness of TQM was very low in

Qatari organisations and they identified several barriers to the implementation of TQM, including limited awareness of TQM and training.

In addition, Chapman and Al-Khawaldeh (2002) examined the relationship between productivity and the implementation of TQM in Jordanian industrial companies and concluded that the productivity of companies that implemented TQM was higher than that of companies that did not. In Yemen, Al-Zamany *et al.* (2002) investigated case studies of Yamani organisations to discover the extent to which TQM principles were understood and what difficulties existed in implementing them. They concluded that the lack of governmental support, the lack of understanding of TQM, and changes in the organisational culture were the main barriers preventing the effective implementation of TQM in Yemeni organisations. Salaheldin (2009) surveyed 200 Egyptian manufacturing firms to identify critical success factors in implementing TQM in developing countries. He emphasised the need to provide appropriate training to contribute to reducing workers' resistance to change in the management style. Similarly, Curry and Kadasah (2002) found that understanding the concept of TQM is critical to the successful implementation of TQM in Saudi organisations.

Issues that might prevent organisations in developing countries from implementing TQM include a negative culture about quality, such as the view that "quality costs money"; lack of communication; lack of awareness of TQM; lack of empowerment; lack of training; insufficient resources; lack of long-term commitment; lack of political support, and tight government control (Bani Ismail, 2012; Twaissi, 2008). However, there is no clear evidence that these factors have prevented the implementation of TQM in Saudi Arabia.

Increased competition and changes in the global market have raised the question as to whether developing countries such as Saudi Arabia could compete if they do not pursue quality improvement. Crosby (1995) has stated that quality is important to the prosperity of a developing country and suggested that improving products or services is the only way to increase trade. Zairi (2002) suggested that developing countries should be encouraged to start a national quality initiative to deploy quality principles and impose laws to increase the quality level of their products and services.

From the discussion above, it can be concluded that developing countries such as Saudi Arabia are encouraged to implement TQM, despite the difference between these countries and developed countries regarding management styles and economic considerations.

### 4.3. Critical Success Factors of TQM

The Critical Success Factors (CSFs) method has been widely adopted in organisations of different sizes in order to support management decision-making and organisational development processes (Ahire *et al.*, 1996; Al-Khalifa and Aspinwall, 2000; Black and Porter, 1996; Saraph *et al.*, 1989). Rockart (1979) provided a comprehensive definition of critical success factors as:

*“The limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organisation. They are the few key areas where things must go right for the business to flourish. If results in these areas are*

*not adequate, the organisation's efforts for the period will be less than desired"*

(Rockart, 1979: 85)

According to Rockart's (1979) definition, any organisation needs to determine the critical success factors, and then make efforts to apply these factors in order to achieve the organisation's objectives. The organisation's efforts and resources will be wasted if the results in these areas are not satisfactory. These factors also enable managers to monitor the quality programmes and to assign responsibilities accordingly.

Rockart's (1979) method in identifying the critical success factors consists of a two-step interview process. The first stage involves open interviews with managers to identify their views on the critical success factors for the business. Based on the results of this stage, a list of factors is developed; a second interview cycle is then conducted with managers in order to rate these factors based on their perceived importance. This method will not be implemented in the current study, due to the complexity of its implementation; it requires analysts to be highly skilled, however interviewer knowledge of the business might affect the results (Davis, 1979). The Rockart method (1979) is also restricted in identifying critical success factors by the fact that the bounded rationality of managers and other individuals in the organisation are excluded, which causes factors to be incomplete or the conclusions to inaccurately reflect the actual situation in the organisation.

The TQM literature showed that critical success factors could be identified through conducting extensive literature reviews to identify which factors were essential to the success of TQM. This approach was implemented in different studies of TQM, such as Al-Dakheel (2002), Al-Khalifa and Aspinwall (2000), Najeh (2006) and Talib and Rahman

(2010). As the present study follows the same method used in previous empirical studies, a comprehensive literature review was conducted to identify the most important TQM factors found in earlier studies in order to implement them in this study. It was felt that this approach would help to ensure the validity of the researcher's method in identifying critical success factors. This study provides an extensive review of the TQM literature based on the work of quality experts and the results of several practitioner studies, which provide validated scales for implementing TQM, such as Ahire *et al.* (1996), Black and Porter (1996), Flynn *et al.* (1994), Powell (1995), Saraph *et al.* (1989) and Zeitz *et al.* (1997). These studies, which are comprehensive, have a high level of validity in the research, and incorporate the majority of TQM implementation constructs and critical success factors, are discussed below (Motwani, 2001). In addition, the LIS literature on quality issues is discussed in order to identify similarities and differences between TQM literature in general and on LIS in particular; this may help in terms of shaping CSFs in this study.

Motwani (2001) confirmed that one of the first empirical studies to identify critical success factors in implementing TQM was carried out by Saraph *et al.* (1989), which identified eight critical factors of quality management. These factors, which were identified as a results of surveys carried out in 20 companies in Minnesota, USA, were management leadership and quality policy; role of quality department; training; product design; supplier management; process management; quality data; and employee relations. According to Motwani (2001), this empirical study had a high level of external validity as it investigated both the manufacturing and public service sectors. The instrument used in this study is well grounded in the literature and was validated by empirical studies, such as those of Black and Porter (1996) and Flynn *et al.* (1994).



Ahire *et al.* (1996) reviewed the TQM literature and surveyed 371 manufacturing firms to identify quality management strategies. They concluded that there were 12 constructs, namely: senior management commitment; customer focus; supplier management; design quality management; benchmarking; statistical process control; internal quality information usage; empowerment; worker involvement; training; quality of products; and supplier performance. They developed a framework to identify the effects of TQM strategies on an organisation's products.

The study undertaken by Flynn *et al.* (1994) was also influenced by the work of Saraph *et al.* (1989). They utilised the perception of different administrative levels including line and managerial levels amongst 42 manufacturing plants from transportation, electronic and engineering industries in the USA. They concluded by identifying seven factors of quality management, namely: leadership, process management, staff management, information, supplier involvement, teamwork and customer-oriented framework. They also identified quality factors that were not found in other studies, including teamwork, customer interaction, cleanliness and organisation.

Porter and Parker (1993) conducted surveys and interviews in ten organisations and identified eight critical factors. They also compared the critical success factors with those identified in the study by Saraph *et al.* (1989). They also looked at the criteria of the Malcolm Baldrige National Quality Award (MBNQA) and discovered a close match with Saraph *et al.* (1989), with only two differences between their critical success factors and the MBNQA. However, they concluded that the critical success factors in Porter and Parker (1993) and Saraph *et al.* (1989) dealt with the measurement of

results (which was required by MBNQA) as consequences more than as a critical success factor.

Black and Porter (1996) implemented the MBNQA criteria to identify the critical success factors in implementing TQM. They conducted a 39-item survey amongst over 200 managers chosen from the members of the European Foundation for Quality Management. This study concluded that ten factors were the most critical when implementing TQM in any organisation. In addition, they compared their results with those of Saraph *et al.* (1989), establishing an agreement between these two empirical studies. However, they further discovered that their study provided two new factors, namely teamwork and customer orientation.

Powell (1995) also offered 12 critical success factors based on an extensive literature review, and developed a TQM measurement instrument through repeated discussions with quality consultants and experts. He provided a tool with 47 items covering 12 variables, and found that quality training, benchmarking and process improvement were the most important factors of TQM. He also identified some attitudes as being vital to the TQM environment, such as an open culture, empowerment and commitment.

Zeitz *et al.* (1997) developed an instrument comprising a 113-item survey to measure the application of TQM amongst 886 individuals. The results identified five cultural dimensions and seven TQM factors that were the most important factors in this scale. The five cultural dimensions were: job challenge, communication, trust, innovation and social cohesion. The seven TQM dimensions were: management support; suggestions; use of data; supplies; supervision; continuous improvement; and customer focus. The

strength of this instrument appears in its ability to assess cultural readiness for implementing TQM.

Following the success of the TQM application in the industrial and commercial sectors, it has been adopted in other sectors, such as Higher Education, to raise customer satisfaction levels (Coate, 1993). Organisations in this sector are keen to implement the best approaches to meet customers' needs. Coate (1993), for instance, suggested that universities should implement TQM across all of their units, including ICs, while Sharma and Sharma (2007) and Kokkori (2000) have claimed that the university IC is the most important unit within the university for implementing the TQM concept, based on its vital role in supporting the educational process. The quality issue in the LIS literature has shown the importance of improving quality as one of the IC's targets.

In the LIS literature, application of the quality concept received considerable attention from researchers. Pilling (1997) described the experience of The British Library Document Supply Centre (BLDSC) in establishing a quality programme and identified several features of TQM that should be emphasised when applying the quality concept, including: user focus, empowerment, staff involvement, process and continuous improvement. Moreover, Barnard (1993) described a model of TQM developed by the Association of Research Libraries and emphasised different factors that might lead to the full application of the TQM concept, including management support, planning, the user, training, empowerment, measuring performance, and continuous improvement.

Brophy and Coulling (1996) introduced the concept of quality management to the managers of LIS organisations, and highlighted the strengths of the quality concept and how it could be beneficial to the LIS sector. They highlighted several areas in the quality

concept that might help LIS organisations achieve the effective application of TQM; these include management commitment; empowerment; training; teamwork; users; and process management.

Moghaddam and Moballeghi (2008) introduced an overview of TQM applications in LIS organisations through reviewing the literature, and summarised the main factors of successful TQM implementation as follows: management commitment; training; customer focus; continuous improvement and staff empowerment.

Abbas (2002) discussed various issues relating to the quality concept through focusing on LIS organisations' experiences and provided an extensive literature review of quality applications in the LIS sector. He concluded that there were several areas that needed to be improved to achieve full TQM application, including user focus; management commitment; empowerment and participation; teamwork; and professional awareness. Abbas (2002) also emphasised the importance of recruiting LIS professional staff as they would be able to improve services more than non-professionals. He mentioned that this idea was widely accepted in the Saudi context in different sectors. Alhaddad (2003) and Alqoublan (2010) agreed with Abbas' (2002) argument about the existence of the concept of professional awareness in different sectors in Saudi Arabia, including LIS. Moreover, Alqoublan (2010) and Alghamdi (2011) added organising for quality as another factor in the success of the quality initiative in the Saudi LIS organisations. They believed that the quality initiative should be organised and planned by managers, emphasising the important role played by the quality unit and quality unit manager in the process of TQM implementation. They stressed that a qualified quality unit manager

working in an active and supportive work environment should guarantee the success of TQM application in LIS organisations.

In order to achieve valid conclusions, the previous empirical studies of critical success factors in the TQM literature were integrated with other studies from the LIS quality literature to form the critical success factors in implementing TQM in LIS organisations (Table 4.1).

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

<b>TQM CSFs</b>	<b>Research studies</b>
<b>Organisational Culture</b>	Adamantidou & Kouri (2000); Black & Porter (1996); Kim <i>et al.</i> (2010); Rowley (1996); Zeitz <i>et al.</i> (1997).
<b>Leadership and Management Commitment</b>	Abbas (2002); Ahire <i>et al.</i> (1996); Barnard (1993); Brophy & Coulling (1996); Flynn <i>et al.</i> (1994); Kim <i>et al.</i> (2010); Powell (1995); Saraph <i>et al.</i> (1989); Wang (2006); Yusof & Aspinwall (1999); Zeitz <i>et al.</i> (1997).
<b>Professional Awareness</b>	Abbas (2002); Alhaddad (2003); Alqoublan (2010).
<b>Staff Empowerment</b>	Abbas (2002); Ahire <i>et al.</i> (1996); Alqoublan (2010); Barnard (1993); Brophy & Coulling (1996); Kim <i>et al.</i> (2010); Pilling (1997); Powell (1995); Saraph <i>et al.</i> (1989).
<b>Training</b>	Ahire <i>et al.</i> (1996); Alhaddad (2003); Barnard (1993); Brophy & Coulling (1996); Kim <i>et al.</i> (2010); Powell (1995); Saraph <i>et al.</i> (1989); Yusof & Aspinwall (1999).
<b>Teamwork</b>	Abbas (2002); Barnard (1993); Brophy & Coulling (1996); Flynn <i>et al.</i> (1994); Wang (2006).
<b>Customer Focus</b>	Abbas (2002); Ahire <i>et al.</i> (1996); Alhaddad (2003); Barnard (1993); Black & Porter (1996); Brophy & Coulling (1996); Flynn <i>et al.</i> (1994); Pilling (1997); Powell (1995); Zeitz <i>et al.</i> (1997).
<b>Process Management</b>	Ahire <i>et al.</i> (1996); Brophy & Coulling (1996); Flynn <i>et al.</i> (1994); Pilling (1997); Powell (1995); Saraph <i>et al.</i> (1989); Yusof & Aspinwall (1999).
<b>Self-assessment</b>	Abbas (2005), Alomran (2010), Ahire <i>et al.</i> (1996); Black & Porter (1996); Flynn <i>et al.</i> (1994); Powell (1995); Saraph <i>et al.</i> (1989); Zeitz <i>et al.</i> (1997).
<b>Benchmarking</b>	Ahire <i>et al.</i> , 1996; Kinnell & Garrod (1995); Wilson & Town (2006).
<b>Quality Unit</b>	Alghamdi (2011); Alqoublan (2010); Kim <i>et al.</i> (2010); Saraph <i>et al.</i> (1989).

Following on from the discussion above, the sub-sections below provide a literature review of the critical success factors in general and the LIS sector specifically, in order to show the similarities and differences between quality features in LIS and those in other sectors.

### **4.3.1. Organisational Culture**

Each organisation has its unique culture which differs from that of other organisations (Scott *et al.* 1993). However, all organisations within the same sector, to a large extent, share the same culture, as all the organisations are affected by the culture of the sector. Organisational culture has been defined as, “*all the interactions, which take place between people, their relationships and the feeling engendered by their behaviour*” (Jeffries *et al.*, 1996: 78). Rowley (1996) believed that:

*“Culture is associated with the philosophy and values which create a common understanding amongst organisational members concerning the organisation’s mission and how its members should behave”* (Rowley, 1996: 18).

Rowley (1996) linked success in terms of implementing TQM in the LIS sector with the organisational culture that promotes user satisfaction, implements a continuous improvement scheme and employs effective problem-solving techniques. She argued that cultural dimensions should be taken into consideration when implementing TQM. She also emphasised the differences between the culture within libraries and the culture adopted by their parent organisations, where the culture in university libraries,

for example, is education-driven. Huber (2011) pointed out that transforming the change-resistant culture was one of the important strategies identified for improving services and customer satisfaction in Lean library management (Huber, 2011).

In the quality literature, the relationship between organisational culture and the success of implementing TQM has been widely investigated. Rowley (1996) believed that the failure to address cultural features could lead to failure of the TQM initiative. Riggs (1992a) highlighted several features that must be emphasised by senior management in order to instil a new culture into libraries, namely systematic thinking; human behaviour; and transformational leadership. He believed that transforming the quality culture, which is a top-down process, is the main strength of Crosby's ideas. Riggs (1992a) pointed out that the failure to change the library culture had resulted in most of the large libraries becoming centralised and bureaucratic organisations, where decisions are made at the top level with limited staff empowerment and participation. Moreover, Adamantidou and Kouri (2000) pointed out that there was no perfect example for LIS organisations to adopt and implement as a model for process improvement. They believed that the appropriate approach to service improvement was connected to the organisational culture and external environmental influences on the IC.

Shepstone and Currie (2008) stressed that changing the culture in LIS organisations begins with understanding the characteristics of the existing organisational culture and predicting the desired future culture outcome and its requirements. They suggested that, in order to achieve a successful culture change, the change should be driven by a step-by-step process. Quinn (1980) described this approach as a "*piecemeal approach to*

*strategic planning*", where the organisation addresses many questions regarding user needs, vision, and the way in which the past can be preserved while moving forwards.

A failure to address the cultural dimension in LIS organisations may affect the application of TQM. Moghaddam and Moballeghi (2008), in their review of the quality literature in LIS, considered the failure of LIS organisations in shifting management values to be a barrier to implementing TQM. They also emphasised that national culture may affect management attitudes, which will lead to the failure to implement TQM. They argued that TQM requires changing the organisational culture, which may face resistance from individuals working in the library. They concluded by emphasising the role played by leaders to create a quality culture, in which each employee has the ability to identify roles and responsibilities relating to quality and user satisfaction. This culture should emphasise that employees must participate in developing visions, plans and strategies. According to Shin *et al.* (1998), inflexible organisational structures and autocratic management systems hinder the adoption of quality principles. The failure of TQM implementation is therefore seen as due to the failure of management to establish an appropriate process for its implementation.

Shepstone and Currie (2008) emphasised the role played by managers and their behaviour in changing the organisational culture to increase effectiveness and improve outcomes for libraries. They should promote creativity, develop new ideas towards continuous improvement and facilitate change. Waterman *et al.* (1988) argued that there are several requirements for success in organisational cultural change, including structural change, systems, symbols, employees, strategies, and managers' leadership skills.



### ***4.3.2. Leadership and Management Commitment***

The commitment of senior management to the quality concept is an important factor for the implementation of TQM in any organisation. While various TQM practices may differ between organisations and sectors, there is agreement on the importance of leadership in its implementation (Evans and Lindsay, 2011). In order to achieve effective implementation, senior management must understand the meaning of quality and of TQM. A large and growing body of literature has investigated the role that management commitment plays in implementing TQM. Evans and Lindsay (2011) suggested the following managerial practices are essential in promoting quality:

- Creating a strategic vision to be used as a basis for all business decisions;
- Setting high expectations;
- Demonstrating strong commitment to the concept of quality and its activities;
- Integrating quality principles into daily management practices;
- Building an environment for quality.

Leadership is not only the first criterion used in quality awards and models, but is also essential to make implementation successful (Zairi, 1999). The objective of TQM is to encourage a participative style of management, which should help in increasing productivity, increasing job satisfaction among staff and improving quality (Robin and Dennis, 1995). The participative management style is positively associated with staff participation in, and contribution to, continuous improvement (Coyle-Shapiro, 1999). Consultative leadership styles are prevalent in such organisations, while the leadership style has a role in increasing staff satisfaction (Randeree and Chaudhry, 2012). On the

other hand, authoritative management styles are aggressive, lacking in teamwork and often experience difficulties in terms of accepting TQM principles (Baidoun, 2000).

In the LIS sector, a relationship was found to exist between senior management commitment and the success of TQM applications (Dadzie, 2004; Jurow and Barnard, 1993; O'Neil *et al.*, 1994). Kumar (2007) stressed that managers must understand the purpose of commitment to quality principles in order to contribute to inspiring a shared vision and enabling others to act. Management support has been found to be one of the most important factors in achieving the full application of the TQM concept (Barnard, 1993; Brockman, 1992). Brockman (1992) believed that misconceptions about the quality concept by senior management have caused failure in 80 per cent of TQM initiatives in case studies of LIS organisations from the UK and North America.

The senior management in the LIS sector must have the required leadership skills, such as problem-solving techniques, vision or strategy, and communication skills, in order to be able to implement TQM effectively (O'Neil, 1994; Orenstein, 1999). Dadzie (2004) found that IC management in the university community in Ghana was committed to the quality concept, although it was financially incapable of implementing it. Furthermore, Kostagiolas and Kitsiou (2008) have emphasised the importance of the role of management before, during and after TQM application in LIS organisations. University ICs have become more complex, suggesting that they need to reshape themselves, which requires transformational leaders who are planners, visionaries and great strategists (Riggs, 1997).

Leadership is seen as an integral part of IC management, which has become important in facing the difficulties currently concerning ICs, including falling budgets,

technological change and competition with other ICs. IC managers should develop a vision through understanding the IC's mission and their role within academic society (Cawthorne, 2010). Good leaders of ICs should be able to communicate their vision with staff, and realise and spread this vision within the IC. Moreover, IC staff must be inspired by their leaders' attitudes and must also be willing to move towards their vision with certainty in order to achieve the IC's objectives (Tedford, 2013). Cawthorne (2010) surveyed middle managers in 22 academic libraries in the Pacific West and concluded that academic libraries need "*to foster new, more flexible, inclusive leadership approaches that recognises ideas and leadership ability of staff at all levels*" (Cawthorne, 2010: 156).

IC management that plans to adopt the TQM concept should consider the advantages and disadvantages of implementing TQM as a part of an organisational effort, as opposed to implementing the concept alone. Brockman (1992) provided examples of the development of the quality concept in LIS, based on its evolution from quality control to quality assurance to TQM. He argued that LIS organisations that have implemented TQM fall into two groups: those that follow their parent institution's policy; and those that implement TQM of their own accord. However, he stressed that TQM can be applied successfully in the IC — even though the university is not involved in quality, and that this application requires strong leadership and long-term commitment from the IC's management.

### 4.3.3. Professional Awareness

The term “*professional awareness*” in this study, as discussed in Chapter One, refers to individuals’ specialisations in LIS, which enable them to be aware of the requirements of LIS organisations. Abbas (2005) has argued that having a background in LIS helps the IC staff to be aware of what should be done in order to improve the services. This concept is applied widely within the Saudi context, where the main requirement in recruiting staff in any sector is that their academic degree is relevant to the discipline in which they will be working. This attitude, which is widespread throughout the vast majority of Saudi organisations in different sectors, is the result of a common belief in professionalism. In the higher education system, this attitude has not changed, due to the strict policy of the Ministry of Higher Education that continues to highlight professionalism as the main requirement in hiring staff in Saudi universities.

Abbas (2005) has argued that professional awareness has been transferred to the Saudi LIS context and that, in consequence, ICs have developed their policies to limit LIS functions to LIS professionals only. These ICs hire non-professional staff only to undertake clerical work (Alqoublan, 2010). Evidence was found in the Saudi LIS literature to support this assumption. For example, Abbas (2002), in his introduction to TQM in the Saudi LIS context, highlighted the difference between the Saudi context and developed countries in terms of professionalism. He found that Saudi organisational and administrative systems do not allow non-professionals to be involved in carrying out professional duties in various sectors, including LIS. He expressed concern that preventing non-professional staff from undertaking professional tasks limits the

contribution such staff can make to service improvement and causes Saudi ICs to waste a huge amount of effort, skills, and competence.

In the Saudi context, Alhaddad (2003) highlighted professional awareness as being one of the main criteria enabling IC staff members to contribute to implementing TQM and improving services. In addition, he found that this point of view was shared with users, who wanted to be served by a professional staff member. These users thought that professional librarians have the ability to provide better services. It can be argued that socio-cultural dimensions regarding professionalism have affected the work environment in Saudi ICs where it is felt that services should be only provided by professionals.

Moreover, Alqoublan (2010) highlighted the lack of professional staff working in 12 Saudi university ICs as one of the barriers to improving services. In addition, Ashcroft (2004) argued that there was a need for LIS professionals to develop different types of skills such as marketing, evaluation and communication, in order to market the library's services. Based on the argument above, it can be argued that there is a relationship between professionalism and success in improving services within the Saudi university ICs.

Professional awareness was found to be one of the main requirements in hiring staff in the LIS sector (Gerolimos and Konsta, 2008). However, some studies found other requirements besides qualifications to be significant in LIS recruitment practices, such as information technology skills, e.g. for Web page design and Internet searching (Choi and Rasmussen, 2009). In a study of online librarian employment advertisements in

China in 2010, Yang *et al.* (2012) concluded that the role had several requirements, including subject knowledge, information technology skills and communication skills.

#### **4.3.4. Staff Empowerment**

Staff empowerment is an essential component for success in TQM implementation, as it gives staff the authority to participate in management activities and to improve business efficiency (Blanchard *et al.*, 1999; Pride and Ferrell, 2012). Staff empowerment leads to increasing productivity, improving customer satisfaction and increasing staff satisfaction (Blazey, 2009). Empowerment has been defined as giving authority and power to lower levels (Blanchard *et al.*, 1999), while others have defined it as the sharing of information and the power to make decisions, autonomy and building team accountability (Randolph and Kemery, 2011). Ahire *et al.* (1996) argued that empowerment shapes the TQM environment through allowing staff to make decisions related to quality. Empowerment has become popular in the literature and was discussed widely as a new business issue in the 1990s (Bowen and Lawler, 1994). Hoffman and Bateson (2003) believed that there is an unambiguous relationship between empowerment and organisational success in terms of improving services.

Empowerment requires training staff in decision-making and other related issues, which can lead to improvement in various outcomes. It contributes to organisational growth in terms of achieving the organisation's objectives and creating a new managerial behaviour style, as well as changing individuals' attitudes (Pride and Ferrell, 2012). Moreover, TQM focuses on customers and process improvement through empowerment, as it helps people to fulfil the organisation's objectives (Marchington

and Wilkinson, 2012). TQM practices motivate employee participation and recognise that employees play a vital role in achieving the organisational objectives and so treat employees as primary resources (Pride and Ferrell, 2012).

In LIS, empowerment was found to be one of the important factors in implementing TQM (Moghaddam and Moballeghi, 2008). Sirkin (1993) stressed that IC staff should be empowered to be able to evaluate and improve the work processes for which they are responsible, which may lead to increased productivity and customer satisfaction. Tam (2000) found that most quality elements are applied in university ICs in Australia including empowerment, although he did not evaluate how far empowerment is successful in improving services. Balog (2009) encouraged leaders and staff to look for new models that foster empowerment in order to keep up with change. Ahmad (2010) recommended that a flat administrative structure should be established in order to avoid centralism in managing the IC.

### **4.3.5. Training**

The TQM literature places great emphasise on training issues in the TQM environment. Salaheldin (2009) believed that the most effective way of establishing quality initiatives in an organisation is to train staff to improve their performance and to reduce their resistance to changes in management style. Ahire *et al* (1996) stressed that frameworks for staff empowerment and participation are not effective unless they involve formal and systematic quality training schemes. The relationship between training and the effectiveness of TQM applications has been widely investigated in the quality literature. The quality journey starts and ends with training (Ishikawa, 1985). Quality training

should be planned, and should provide for the realisation of successful change in management style (Thiagarajan and Zairi, 1997). Oakland (2003) stressed that training is the most important factor in implementing TQM, once managers' commitment had been assured. Deming (1986) believed that the responsibility for training should rest on senior managers, while Oakland (2003) directed the responsibility for training all employees at all levels to managers, with the main elements supported by training including problem prevention, reporting, investigation and review.

Abbas (2002) suggested that effective quality training in Saudi LIS organisations should focus on three aspects:

1. Human factors, including team building and communication.
2. Technical factors, including benchmarking and process improvement efforts.
3. Leadership factors, including management of change, empowerment, and counselling.

A large number of studies describe the vital role of training in the IC environment (Barnard, 1993; Brophy and Coulling, 1996; Dale, 2003; Jurow and Barnard, 1993), all of which have focused on the need for proper training programmes though they adopted different views on how such programmes should be provided. Kumar (2007) and Moore (2010) recommended that training programmes should start with senior managers, followed by middle managers, and finish with the rest of the IC staff.

Training programmes in the TQM IC environment can be provided within LIS professional training or in training on quality issues. Professional training programmes



help staff to develop their skills and update their information on different issues in the LIS field, such as information technology (Metz, 2011; Weech, 2009). Training programmes in an IC setting should follow the parent institution's policies in terms of timing and quality (Lawes, 1993; Vincent, 2009).

Organisational structures in university ICs are changing, with some flattening, while others are implementing team-based approaches. Rooney (2010) examined management training programmes provided to departmental heads prior to and after being appointed. His survey showed that these individuals received more training after being appointed, indicating that managers need to receive training to enable them to keep up with changes in management and the LIS profession.

ICs that have implemented TQM are likely to have trained their staff in customer service through providing a cross-training programme. Cross-training is defined in the literature as "*an instructional strategy in which each team member is trained in the duties of his or her teammates*" (Volpe *et al.*, 1996: 87). Morris (2009) discussed training issues in LIS organisations and focused on training requirements in implementing a quality plan, as well as on how a quality initiative should be introduced to individuals working in an IC. Loney and Bellefontaine (1993) recommended that ICs interested in serving customers have to move beyond quality and customer service training, and conduct training on the implications of technological and organisational factors that might inhibit successful implementation of TQM. Feldmann *et al.* (2013) surveyed librarians in Colorado State University Libraries to address concerns regarding training. They concluded that there were inadequate training opportunities and that seminars and cross-training would be beneficial to libraries in terms of improving employees' skills.

The TQM literature on LIS has highlighted cross-training as an important principle in improving staff skills and increasing their contributions to service improvement. Florance *et al.* (2002) discussed the factors involved in planning a cross-training programme, which offers several benefits to ICs such as the enhancement of staff members' job skills; barriers between units becoming less rigid; the support of co-workers increasing; communication between departments improving; improvements in services; and ICs' ability to respond more quickly to challenges when they have staff who can perform different jobs. In the same vein, Johnson (1996) discussed how both staff and ICs benefit from cross-training programmes, and accordingly presented a cross-training project in the University of Minnesota's St Paul Campus libraries as one model for planning and implementing an effective management approach.

In order for quality training to be effective, however, it must be evaluated to fit with the technology and environment of the organisation (Oakland, 2004). One of the main objectives of the university IC is to focus on developing a continuous training scheme for professionals. Stites (2009) suggested that ICs should evaluate training programmes in order to confirm whether or not they are appropriate to their own environment. Moreover, Stites (2009) advised that staff must understand the purpose, goals, and benefits of such training programmes prior to becoming involved in them. Furthermore, she identified several stages involved in evaluating training programmes before, during and after providing training, and documenting the results.

#### 4.3.6. Teamwork

Teams play a key role in the successful application of TQM, as team members develop loyalties that produce cooperation towards the achievement of organisational objectives (Abbas, 2005). Importantly, the teamwork concept is usually adopted in problem solving, sharing responsibilities and coordinating efforts (Evans and Lindsay, 2011; Zhang *et al.*, 2000). Rao *et al.* (1996) and Wang (2006) emphasised the importance of teams in the TQM environment as they enable several parts of the organisation to work closely together to meet customer needs that cannot be met by individual efforts. Shaughnessy (1992) argued that the success of a university IC or other complex organisations depends largely on teamwork.

Teams should be used as a basic component in conducting work tasks because they are able to combine multiple skills and experience. Coyle-Shapiro (1995) argued that teamwork could be interpreted as the collaborative activity of individuals and cooperative interactions within the group. Riggs (1992a) distinguished between teams and typical library committees, and believed that teams are self-directed work groups that bring together most of the staff in the library working in a specific area to collaborate in improving the area's quality.

The literature on LIS presents several reasons for the application of teamwork in LIS, including quality improvement, greater flexibility, reducing costs, a better response to changes, and attracting new people (Paster, 2004). If team members are trained to operate in a team-based environment, the teamwork concept is able to help to change processes quickly, improve services and meet users' needs (Kamada, 2002). Kamada (2002) has pointed out that job descriptions for librarians focus on having the skills to

work in a team. Continuous improvement is a responsibility of everyone in the IC, and to achieve that, teamwork is seen as an appropriate approach to building a collaborative work environment (Rowley, 1996).

Teamwork is a key element of the TQM concept and has a fundamental role to play in developing IC services (Lubans, 2010; Metz, 2011; Wang, 2006). In his study of four university libraries in the UK, Hall (1999) highlighted several skills needed by team leaders, such as decision-making, communication, and staff selection skills. He recommended the provision of training in teamwork in order to improve a teams' productivity. The actual means of assessing leadership in LIS were noted by Rossiter (2007) who added creative thinking skills as a requirement for being a team leader in TQM ICs. Self-managed work teams (SMWTs) are able to increase employee involvement in critical business decisions, so increasing service quality and decreasing employee turnover and absenteeism (Ahmad, 2010).

### **4.3.7. Customer Focus**

Customer satisfaction was defined as how an organisation determines and meets customer needs and expectations (Hernon and Altman, 2010). Gustafsson *et al.* (2005) defined it as a customer's overall evaluation of the products and services offered. The EFQM (2000) self-assessment guidelines relate an organisation's success in implementing different factors, including the ability to satisfy its customers. In addition, the Lean library management system considers service performance to be the key to customer orientation (Huber, 2011). Oakland and Porter (1994) pointed out that several quality award-winning organisations and quality models share common

approaches and philosophies relating to customer satisfaction. These organisations have customer-oriented frameworks that encourage employees to be involved and committed to customer satisfaction. However, customer needs must be identified in order to design the appropriate services (Spring *et al.*, 1998).

Goleski (1995) and Wang (2006) have argued that non-profit organisations, such as ICs, were slower in terms of being involved in customer service issues because they did not think of their users as customers. This conservative view has changed because of the changes in information technology and in users' attitudes (Wang, 2006). ICs would lose their users if they failed to be competitive with other ICs in terms of providing services with a high level of quality. ICs need to follow the approaches applied in the business sector regarding attracting customers and searching for new services to increase customer satisfaction levels. Thus, ICs should identify the users' needs and how they should be met (Wang, 2006).

User satisfaction is one of the important principles of TQM that interests university librarians. Brophy (2005) stated that "*quality can only be defined in terms of customer needs, this is an entirely appropriate way to gain an overall view of quality*" (Brophy, 2005: 191). Riggs (1992b) and Alqoublian (2010) argued that user orientation is not a new concept in LIS, as the evidence shows an emphasis by LIS organisations on user satisfaction. Sirkin (1993) believed that customer expectations are a matter of supplying what the customer demands, arguing that librarians should use the term '*customer*' not '*user*' when referring to those they serve. She warned that librarians should not create false expectations for customers and asserted that the empowerment of staff can improve their ability to contribute to improving services, which in turn may

lead to increasing customer satisfaction. A long-term focus on customer satisfaction is an effective tool in assisting ICs to accomplish their mission (Brophy, 2005).

When looking at the IC user, Millson-Martula and Menon (1995) considered three interrelated elements: customer expectations, IC performance and customer satisfaction. They also examined four gaps related to customer expectations and IC service performance, and recommended enhancing strategies for improving services in university ICs. They asserted that TQM had provided many organisations, including ICs, with many different advantages in terms of relationships with users and services, and further encouraged university librarians to make customer satisfaction one of their goals.

Wang (2006) divided IC customers into two categories: the external customer or the user, and the internal customer or the employee. Achieving the satisfaction of these two types of customer could assist the IC in developing more services and accordingly raise the level of competition with other ICs. Cundari and Stutz (1995) emphasised the measurement of user satisfaction in a specialised IC located in a healthcare organisation known as The Devereux Foundation by distributing questionnaires to 156 participants — the majority of whom were satisfied with the quality of services. They recommended that the IC pay attention to users' concerns, enable users to access IC services remotely and establish communications with new users.

In her review, Pritchard (1996) emphasised the need to develop an instrument to assess user satisfaction; she concluded that the future of university ICs depends on their contributions to the improvement of the educational process. Heinrichs *et al.* (2005) applied the LibQUAL scale in the University of Wayne Library and found that there was

a relationship between users' perceptions regarding the quality of service and their satisfaction with services. They suggested that improving the quality of services would maintain and increase user satisfaction.

The quality concept is used to improve different types of service in university ICs. Brown (1994) used insights gained from the business quality literature while Poll and Boekhorst (2007) relied on information obtained from both the business and IC literature. These authors acknowledged that accuracy in terms of responding to reference questions and tabulating the numbers of questions received at the reference desk are traditional ways in which reference services have been assessed. However, Brown (1994) and Poll and Boekhorst (2007), emphasised service interaction at the reference desk to identify their IC patrons and to accordingly determine whether or not the IC met user needs and expectations. Both studies listed the ways in which they assessed reference work areas, with survey instruments found to be one option they both used.

Goleski (1995) argued that meeting user needs was the responsibility of all staff working in the IC, and that the IC management should encourage all employees to participate in service improvement, whether frontline employees or not. In dealing with meeting user needs and expectations in providing quality IC services, Hernon and Altman (2010) and Blackburn *et al.* (2009) focused on human performance as a key cause of customer dissatisfaction, stating that positive and negative word-of-mouth advertising can affect people's use of the IC.

#### **4.3.8. Process Management**

The objective of process management is to make processes valuable, increase the quality of services, and raise staff productivity (Oakland, 2004). It also involves analysing and redesigning processes to resolve or reduce problems within the organisation (Deming, 1986). Deming (1986) also stressed that the most important advantage of process management is to help in understanding how processes within an organisation are really carried out, identifying problems and errors. Several studies have revealed that other advantages of process management include its ability to reduce the time needed to provide a service, decrease costs, improve the organisation's efficiency, improve quality and increase the satisfaction of internal and external customers (Bendell *et al.*, 1998; Crosby, 1989; Oakland, 1993; Sinclair, 1994; Thiagarajan and Zairi, 1997).

Process improvement requires incremental change, with such changes being undertaken by employees directly involved in the process. The objective of process measurement is to ensure the success of any process improvement initiative and increase understanding of how processes operate (Deming, 1994). The objective of implementing TQM is to manage internal processes effectively to achieve customer satisfaction (Thiagarajan and Zairi, 1997). Oakland (1993) pointed out that, in any organisation, there are intricate structures of internal and external customers, and any break in the internal customer chain may affect the external customer. The organisation should ensure that each individual in the organisation understands the organisation's mission, which is meeting customers' requirements (Bendell *et al.*, 1998; Crosby, 1989).



Sinclair (1994) discovered that TQM organisations are able to identify and map processes in order to support the management of processes.

Johannsen (1996) believed that the main objective of implementing TQM in the LIS sectors is to improve processes and customer satisfaction. Pilling (1997), in her description of a quality initiative in the British Library Document Supply Centre, identified process rather than function as one of the major features of TQM relevant to LIS organisations. Kaur *et al.* (2006) linked process design and quality management with user satisfaction and argued that the objective of a quality system in the University of Malaya library was to identify user needs and design processes in an attempt to address these needs, followed by measuring user satisfaction. In the same vein, Kostagiolas and Kitsiou (2008) found that implementing TQM could improve library operations and productivity, thus eventually improving the quality of services.

Wang (2006) argued that the implementation of TQM in LIS organisations requires a conceptual change in library professionals and transformation of the organisational operations so that they are aligned with TQM. Through personal observations, Tam (2000) compared quality practices in some Australian university libraries that had implemented Deming's method. He found that there was deviation from Deming's management method, including the elimination of process management and management by objectives. He encouraged LIS organisations to change their processes in order to reflect changes in university needs and structures.

Rowley (1996), in her review, argued that there is a debate on defining quality in terms of user perceptions, and further indicated a gap in the quality literature between users' perceptions and expectations. She highlighted the error-free process, where TQM

focuses on preventing waste and reducing costs, as a way to increase the quality of services. She concluded that library managers are encouraged to implement quality control in services to increase library productivity.

#### **4.3.9. Self-assessment**

Self-assessment is a technique used to measure the extent to which an organisation is successful in creating a culture of quality and in implementing TQM principles (Zairi, 1994). In this vein, organisational management can employ self-assessment techniques as a tool to assess its ability to implement TQM, and to further ensure that its efforts to apply the quality concept are on the right path. Oakland (2004) stressed that the most effective approach in terms of assessing organisational performance is assessing it against accepted criteria.

Measuring the quality of services was first introduced by Parasuraman *et al.* (1988), who designed the well-known SERVQUAL scale. This scale, which is centred on measuring five gaps between the actual performance of the service and customers' expectations of it, is based on five dimensions: reliability; assurance; tangibles; empathy; and responsiveness. The SERVQUAL scale was first developed for the commercial sector, but is now widely applied in different sectors, including the public service sector (Green, 2008). In terms of LIS, Armstrong (1994), Coleman *et al.* (1997), Hebert (1994) and Ho and Crowley (2003) applied SERVQUAL to measure service quality in different types of ICs in the US, Australia and Canada. These studies showed that SERVQUAL could be used successfully to measure IC performance, as this scale was

able to identify gaps between user perceptions and their expectations regarding the services. However, this scale is not designed to gather details (Ho and Crowley, 2003).

The SERVQUAL scale has gained acceptance from different commercial and public service organisations, including LIS. In 1999, the Association of Research ICs (ARL) developed SERVQUAL to be suitable for LIS: a development referred to as LibQUAL. Several studies have been conducted with the aim of validating this model in the LIS sector in different parts of the world, including the Saudi context (Abbas, 2005; Alomran, 2010; Awan *et al.*, 2008; Einasto, 2009; Nitecki and Hernon, 2000; Sahu, 2007; Sherikar *et al.*, 2006; Shorb and Driscoll, 2004; White and Abels, 1995). The results in each study differed with regard to the perception and expectations of IC users, but these studies agreed on the validity of the scale in measuring the quality of IC services.

The choice of assessment model for implementation depends on senior management knowledge and preference (Fountain, 1998). In this vein, other models developed by empirical studies include widely accepted techniques for measuring an organisation's progress towards TQM, such as Ahire *et al.* (1996), Black and Porter (1996), Flynn *et al.* (1994), Powell (1995), Saraph *et al.* (1989) and Zeitz *et al.* (1997). These models are presented and discussed in Section 4.4.

In LIS, continuous evaluation and measuring of IC performance are required elements in developing services. Identifying the points of weakness in performance helps to resolve problems in order to develop the performance of the IC and its staff. Drawing comparisons with those ICs that provide outstanding services may help to establish differences and highlight lack of performance, as well as showing how such factors could motivate the IC to address them, which would benefit both the IC and its users

(Johannsen, 1995). Poll (2001) compared the performance indicators for electronic services in ICs from different European countries, subsequently stating that some of these indicators have gained greater acceptance by LIS than others, and that all of these indicators reflect the LIS interest in performance measurement. Different performance assessment tools were used to evaluate IC performance and to reveal the points that needed to be taken seriously. These tools were adopted from other sectors to assess IC performance, such as SERVQUAL, ISO 9000 and the EFQM Excellence Model. Kokkori (2000), Sharma and Sharma (2007) and Valls and Vergueiro (2006), recommended transferring others' experience in self-assessment to the LIS sector, as this could enable it to benefit from other sectors' experiences.

Performance measurement tools should be compared in order to identify the most suitable tools for LIS. Johannsen (1995) and Valls and Vergueiro (2006) provided different rationales for applying one particular tool in LIS in different countries. It was reported that implementing the EFQM Excellence Model as a self-assessment tool in LIS is increasing, due to its ability to help LIS organisations in establishing a framework for evaluation and gaining improvement in productivity (Jones *et al.* 2000). Johannsen (1995) surveyed 231 IC staff in 700 ICs in four different European countries, namely Denmark, Norway, Finland, and Sweden, and discovered that ISO 9000 has various limitations and so cannot be applied to all aspects of an IC. Moreover, the conclusion was reached by emphasising the need to implement the EFQM Excellence Model to measure the performance of the LIS. On the other hand, Valls and Vergueiro (2006) reviewed the quality literature in LIS, and found that the growing interest in ISO 9000 has created a strong desire for its utilisation in information services in Brazil. This shows the importance of differences between countries (cultural, organisational and

social) that can have an impact on the application of tools found particularly suitable to measure IC performance in those contexts.

Various attempts in the literature have been made to discuss the application of the EFQM Excellence Model in different types of IC (Barrionuevo and Perez, 2001; Herget and Hierl, 2007; Lozano and Pacios, 1997). Diaz *et al.* (2005) stated that “*the model is valid for university ICs of varying types*” (Diaz *et al.*, 2005: 17). Jones *et al.* (2000), studied UK public libraries to evaluate several techniques for self-assessment, and argued that self-assessment tools can help in evaluating IC services, stressing the need for adapting tools such as EFQM that are able to reflect LIS service cultures and experience. Lozano and Pacios (1997), in a comparison of the application of the EFQM Excellence Model and ISO 9000 standards in LIS, established that the EFQM excellence model focuses on the results and customer satisfaction, whilst ISO 9000 focuses on the processes only, which indicates that EFQM is a more comprehensive self-assessment tool. Barrionuevo and Perez (2001) evaluated the university system in Andalusia (Spain), concluding that the EFQM Excellence Model was valid for the ICs under study, based on their characteristics, and could be valid for other types of IC. Furthermore, Herget and Hierl (2007) applied the EFQM model in three case studies in Switzerland, and found that the senior management in the three ICs had a positive impact on EFQM application. They argued that this model had shown the ability to evaluate services in different ICs in terms of size and management styles.

#### 4.3.10. *Benchmarking*

Benchmarking is another important factor in the quality concept (Ahire *et al.*, 1996; Zhang *et al.*, 2000). Rank Xerox, a leading private sector organisation that developed benchmarking as a component of its quality programme, provided a comprehensive definition:

*“A continuous, systematic, process of evaluating companies recognised as industry leaders, to determine business and work processes that represent best practices, establish rational performance goals”* (Rank Xerox, cited in Zairi, 1998: 12).

The objective of benchmarking is to improve organisational performance by comparing the performance of two organisations implementing TQM (Thiagarajan and Zairi, 1997).

Zairi (1994) linked TQM with benchmarking, stating:

*“TQM is the wheel of improvement, doing an internal, value-adding activity for the end customer. Benchmarking is the external activity for identifying opportunities and ensuring that the wheel of improvement is turning in the right direction and is making the necessary effort towards the end destination, i.e. achieving high standards of competitiveness”* (Zairi, 1994: 65)

Benchmarking is an effective approach to collecting information to be used in supporting continuous improvement processes and competitiveness (Björklund, 2010).

Benchmarking enables an organisation to identify strengths and weakness in its performance and to search for best practice. Evans and Lindsay (2011) described three types of benchmarking:

- Performance benchmarking, which emphasises technical quality and other characteristics of services.
- Process benchmarking, which focuses on work processes and training.
- Strategic benchmarking, which examines the organisations' competitiveness and strategies.

Benchmarking IC services enables the IC to benefit from the experience of other ICs regarding quality service improvement (Balagu and Saarti, 2008). The value of benchmarking appears to be a proven tool to achieve TQM and to improve IC performance (Laeven and Smit, 2003).

According to Town (2000), several attempts were found in the literature to apply benchmarking in university libraries in the UK. Favret (2000) pointed out that there is a long tradition in the UK of public libraries using performance measurement tools, reflecting an interest in assessing the libraries' efforts to provide high-quality services. Several studies have recommended that benchmarking is beneficial to libraries that have an existing quality approach (Kinnell and Garrod, 1995; Wilson and Town, 2006). However, Brockman (1992) suggested that benchmarking is not an appropriate approach for LIS organisations, and identified a barrier to its application in LIS, which is the vocabulary of management, such as commitment and empowerment.

Wilson and Town (2006) argued that there are several frameworks that can measure the quality of services but no framework to benchmark the quality of the process of implementing the quality concept. As a result, they developed the Quality Maturity Model (QMM), which defines strategies for implementing and establishing quality

management in LIS organisations at different levels, namely: Initial; Repeatable; Defined; Managed; and Optimising. However, QMM does not place any emphasis on the cultural and social influences on the application of a quality model.

### **4.3.11. Quality Unit**

The TQM literature highlights the importance of a quality department in a quality organisation (Crosby, 1967; Feigenbaum, 1961; Juran, 1974; Quazi *et al.*, 1998 and Saraph *et al.*, 1989).

In order to make quality improvement effective, a systematic implementation of TQM should be ensured (Crosby, 1989). Johnston and Daniel (1991) suggested that a quality infrastructure should be built in order to achieve a successful application of TQM. Senior managers are responsible for introducing TQM and for defining a quality structure and framework to develop quality within the organisation (Oakland and Porter, 1994). Thus, Oakland and Porter (1994), who argued that a quality structure is essential to the success of TQM implementation, proposed a three-tier quality structure, including a quality council; process quality committees; and quality improvement teams. The quality council is comprised of senior managers, and is responsible for setting objectives and for monitoring the implementation process (Bendell *et al.*, 1998). The quality council should be powerful enough to lead the effort to change management styles so as to be aligned with TQM (Glover, 1993). The process quality committee is responsible for supporting the quality council by monitoring and managing quality at the process level. Oakland and Porter (1994) suggested that each committee should contain at least one senior manager, as this supports employees' participation. Process



quality committees are responsible for forming quality teams, appointing team members and monitoring workflow, while team members are responsible for solving work problems.

A limited number of studies have discussed the role of quality departments in guiding and coordinating efforts towards achieving quality; the IC manager's role was the one that was most emphasised. However, Balague and Saarti (2009) compared the approaches adopted by two university libraries in Spain and Finland in an attempt to build their quality management styles, and highlighted the role played by quality unit managers as a member of the quality committees in implementing decisions in due time and in participating effectively in the quality implementation initiative. In a similar vein, Kaur *et al.* (2006) emphasised the role of the actions taken by the quality unit manager in improving the quality committee decisions in the University of Malaya Library. Gelders *et al.* (1993) argued that the quality unit managers are responsible for providing a structure for the staff to work in, designing an improvement system and documenting its progress.

#### **4.4. TQM in the Saudi LIS Context**

Applications of the quality concept are not at the same level in the Middle East as in developed countries (Al-Khalifa and Aspinwall, 2000). However, there is increasing interest in applying different management philosophies in order to increase the productivity of organisations in these countries (Al-Khalifa and Aspinwall, 2000). Curry and Kadasah (2002) have argued that understanding the concept of TQM and its

principles is a critical factor in the effective application of TQM to organisations in Saudi Arabia.

In the Saudi LIS context, the quality trend began in the early 2000s, when Abbas (2002) published the first study discussing the concept of TQM and its benefits to Saudi LIS organisations in improving productivity and efficiency. He discussed different issues relating to TQM and its application in the LIS sector, and linked these issues to the situation in Saudi Arabia, identifying some areas that needed more emphasis from LIS management in order to achieve effective application of TQM within Saudi LIS organisations. He highlighted the importance of the existence of a user-orientation framework; management commitment; staff empowerment and participation; teamwork; and professional awareness amongst staff. However, Abbas's study (2002) lacked validity as it was not built on previous studies in the Saudi LIS context. Abbas (2002), Alhaddad (2003) and Alqoublan (2010) are in agreement that professional staff can contribute to applying the quality concept more than non-professionals can.

While some quality practices are in place in some Saudi university ICs, including KSU, KAU and KFUPM, this is only to a limited extent, which has led to a low level of service quality (Alhaddad, 2003). The practices aligned with the quality concept were identified as teamwork, service improvement efforts and user focus (Alhaddad, 2003). However, there was a relationship between the lack of human resources development and with staff dissatisfaction, which in turn influenced the services provided. Alhaddad (2003) concluded by recommending that training issues should be addressed by these ICs in order to increase staff satisfaction, which would lead to their increased contribution to the implementation of TQM.

Abbas (2005) tried to measure the quality of service in KAU IC before its achievement of attaining ISO 9000 certification in 2008 by utilising the LibQUAL scale. He argued that the quality of service provided was low, and summarised his study's findings as follows:

1. Customer assessments of actual service were negative because they did not live up to expectations.
2. Saudi ICs generally rely on a hierarchical management structure that reduces employee empowerment and job satisfaction.
3. The need to pay attention to quality dimensions and standards, especially those which are difficult for competitors to adopt.

Abbas (2005) recommended further research to measure the quality of the services provided by the IC, as well as the need to pay attention to any shortcomings and defects during users' application of IC services, and access to the principle of retaining the confidence of the user.

A survey of staff in KSU IC, one of the leading university ICs in Saudi Arabia, to identify the level of application of TQM found that TQM was in place at the mid-level, and that staff understood some of the quality principles, such as teamwork, at the unit level (Alhemali, 2003). The author suggested that senior management must create a culture of quality and accordingly adopt the principles of quality to improve service quality.

In her investigation of the barriers facing Saudi ICs wanting a full implementation of TQM, Alqoublan (2010) surveyed the Deans of Library Affairs in 12 university ICs. She concluded that lack of empowerment, lack of professional awareness amongst staff, and the absence of quality units and qualified quality unit managers were the main barriers

facing Saudi university ICs. However, she did not investigate the members of the IC staff, who might have held different points of view from their managers regarding TQM, especially concerning staff-related issues, such as training.

The most recent study in the Saudi LIS context was carried out by Alomran (2010) in his case study of KFUPM's application of the LibQUAL scale. He surveyed 127 postgraduate students in KFUPM with the aim of measuring their level of satisfaction with the services provided by the IC. He concluded that internal training schemes provided to IC staff, including quality, had a positive impact on staff contributions to service improvement efforts.

The small number of studies conducted in Saudi Arabia illustrates the need for more in-depth studies into TQM application in the LIS sector. These previous studies failed to examine cultural influences on the application of TQM, which are emphasised in this study. Each of the studies discussed above focused on one case study only, using a quantitative research method with narrow research samples, whether IC staff or users, with IC managers excluded. The only exception is that of Alqoublan (2010), which focused on the Library Affairs Deans of ICs only. It is notable that there is no study of both managers and staff from different ICs, except for that of Alhaddad (2003), who investigated IC staff and users. Moreover, there is a lack of use of performance-measuring tools, except in the case of Abbas (2005) and Alomran (2010), both of whom applied and validated the LibQUAL scale. However, there is a clear absence of the EFQM Excellence Model in the Saudi LIS literature, which can be addressed by this study. It is the lack of depth in these studies, characterised by the use of a single quantitative

method (questionnaire) that led to the realisation of the importance of conducting an in-depth qualitative investigation of TQM applications in Saudi LIS sector.

### 4.5. Future of TQM

TQM may be an old management concept, but the processes and results are just as valid today as they were in the past (Bani Ismail, 2012). Boulter *et al.* (2013) stressed that TQM is still relevant and alive. It is viewed by many organisations as an essential concept for performance improvement and efficiency (Abbas, 2005). In the 1990s, during the golden age of TQM, Sinha (1999) stressed that many organisations had no clear idea about TQM and its purposes. Helping organisations to assess their performance against several recognised models of TQM can help bring about a better understanding of TQM (Abbas, 2005). Sadeghian (2010) pointed out that interest in service improvement and performance efficiency among organisations from different sectors led them to adopt TQM in order to improve profitability and their competitive positions.

In 2002, the observation was made that TQM had been exported from developed countries to developing countries to help them to improve their economy and industrial sectors but that they had not yet adopted it (Al Dakheel, 2002). Bani Ismail (2012) believed that TQM increased in popularity because organisations in the public service sector could benefit from its practice. However, the export of the TQM concept into new environments with different cultures creates some challenges.

Al-Musleh (2010) and Lam (2007) confirmed that quality practices are still valid and continue to have a positive impact on organisational performance. Feigenbaum *et al.* (1999) believed that organisations in the 21<sup>st</sup> century would focus on their customers, employees and on the public in order to improve their services, which can be achieved by implementing TQM.

Elfaituri (2012) and Wilson (1996) believed that every individual would be required to be quality conscious and the quality unit would disappear, which could lead to a dramatic decrease in the size of the quality profession. On the other hand, Alsuhaime (2012) had a different view, when he stressed that while professionals in quality would not disappear, employees would increasingly be trained to develop quality standards.

The objective of TQM is to provide organisations with a framework for success in performance improvement through achieving customer satisfaction. TQM implementation must promote a culture of continuous improvement that helps organisations to satisfy the customer needs on an on-going basis (Aladdadi, 2012; Walsh *et al.*, 2002). In addition, Park-Dahlgaard *et al.* (2001) stated that TQM is a continuous process, and is a fusion of both western and eastern ideas. McAdam and Henderson (2004) stated:

*“The future of TQM as influenced by market changes is likely to result in less structured TQM approaches and more devolved, empowered, customer-facing TQM activity. While TQM exponents may argue that these elements have been in existence for some time, there is clearly a need for TQM to become more mobile and agile to meet such challenges” (McAdam and Henderson, 2004: 58).*

Elfaituri (2012) and Yong and Wilkinson (2001) pointed out that the wide application of quality awards around the world, largely built on the principles of TQM, indicates the relevance of TQM in the 21<sup>st</sup> Century, including the Malcolm Baldrige National Quality Award (MBNQA), the EFQM Excellence Model and the ISO 9000. Rahman (2004) believed that today's business surroundings are unstable and that organisations should become more flexible in order to remain competitive. He considered that the implementation of TQM has a strong impact on the activity of an organisation. He also identified the key elements that, he believed, made TQM a relevant management concept in today's world, including customer orientation; senior management commitment and leadership; planning and organisation; training; empowerment; teamwork and performance measurement, and feedback. Dahlgaard-Park (2011) indicated that the term TQM seems to have lost its attractiveness in Western countries and instead new terms such as Business Excellence and Six Sigma seem to have overtaken the position; however, the content of these new ideas can be understood within the framework of TQM.

Several related management styles, which can be seen as variants and developments of TQM, have been applied in the LIS sector, particularly to improve services and customer satisfaction. These include Lean Library Management and the Balanced Scorecard.

Huber (2011) developed Lean Library Management based on the earlier quality models including TQM and considered it to be a management concept that aimed to reduce the distance between an organisation and its customers by eliminating all of the waste in the organisation's service delivery cycle. Huber (2011) presented 11 strategies to reduce cost and improve services:

1. Recognise that service performance is the key to customer retention.
2. Transform your change-resistant culture.
3. Understand how delivery service chains drive your library's performance.
4. Align your performance metrics with your delivery service chains.
5. Transform your new book delivery service chain.
6. Transform your customer holds and reserves delivery service chain.
7. Transform your cost control philosophy to a lean service improvement philosophy.
8. Transform your overall library service performance metrics.
9. Transform your digital research delivery service chain.
10. Transform your delivery service chain from a “push” to a “pull” philosophy.
11. Think lean before the concrete is poured.

Huber (2011) argued that once these strategies are implemented, costs will be reduced and the library will improve its service. The strategies presented above could enable the decision-makers in LIS organisations to identify the gap between current and desired performance. On the other hand, there are some concerns about Lean Library Management. The relationship between the various strategies was not always clear. For example, strategies 1 to 4 seem to be about creating an environment conducive for Lean implementation, but Huber (2011) did not show how this environment could be created. Strategies 5 to 11 are specific case examples of Lean applications. In addition, Huber (2011) should have elaborated on how his strategies might be different for different types of libraries; for example, the goals, missions, and user groups for a public library are different than those for a university library. He also failed to emphasise the



role of senior managers in the performance measurement and continuous improvement processes.

Another model, considered as a development of TQM, is the Balanced Scorecard, which aimed to develop the strategies of a business based on the results of performance indicators in order to establish the framework required for measurement systems and strategic management (Kaplan and Norton, 1992, 1996). This approach suggests that the evaluation of business performance should rely on both financial and non-financial indicators (Yüksel and Dağdeviren, 2010). This system comprises four perspectives that need to be balanced in performance measurement: financial, customer, internal business process, and learning and development perspectives (Kaplan and Norton, 1996). The financial perspective consists of the costs or measurement involved, in terms of rate of return on capital and operating income of the organisation. The customer perspective measures the level of customer satisfaction, customer retention and market share held by the organisation. The business process perspective consists of measures such as cost and quality related to the business processes. The learning and growth perspective consists of measures such as employee satisfaction, employee retention and knowledge management. Each perspective has one or more strategic objectives, or goals, associated with it. These perspectives should be translated into corresponding metrics and measures that reflect strategic goals and objectives. Four to eight measurements, or metrics, are selected for each perspective. Each metric has a specific and unambiguous target or set of targets. In LIS, Self (2003) described the experience of the University of Virginia Library when implementing the Balanced Scorecard, and concluded that the scorecard metrics should be aligned with library organisational values. Mengel and Lewis (2012), who investigated two university

libraries in the USA, Johns Hopkins University and McMaster University, using the Balanced Scorecard, identified ten key themes that need to be focused on in order to improve the services:

*“the customer – quality of physical space, customer satisfaction, instruction, document delivery, and collection, preservation/discovery; financial health – revenue generation; learning and growth – employee satisfaction and diversity; internal processes – library promotion and assessment of services”* (Mengel and Lewis, 2012; 357).

When comparing the Balanced Scorecard with other quality models, such as the EFQM Excellence Model, it can be seen that the Balanced Scorecard is able to direct long-term programmes and offers the option of selecting relevant performance measures. In addition, the measurements in this system are based on the actual data and two types of feedback, financial and non-financial. On the other hand, the Balanced Scorecard has a number of limitations: the complexity involved in providing guidelines for selecting performance measures, and the complexity in generating feedback from the financial perspective to the customer perspective (Dror, 2008). The focus of Balanced Scorecard tends to be too much on lagging indicators that show final results only. Many of the measurement systems, such as EFQM Excellence Model, are more balanced and provide equal attention to leading and lagging indicators (Kanji, 2002). Smith (1998) pointed out that the Balanced Scorecard fails to account for the role of “motivated employees”, a critical issue especially in the public service sector.

#### 4.6. Criticisms of Total Quality Management

TQM is a management philosophy that aims to improve organisational performance and increase customer satisfaction. However, Gatchalian (1997) pointed out that only 20 to 35 per cent of TQM applications around the world can be considered successful. Harari (1997) confirmed that no more than one-third of TQM applications in Europe and the USA had succeeded in achieving improvements in quality and productivity, and he listed ten reasons for the failure of TQM, as follows:

1. It focuses on internal processes rather than on external results
2. It focuses on minimum standards
3. It develops its own ponderous bureaucracy
4. It involves a comprehensive transformation
5. It does not require radical organisational reform
6. It does not demand changes in management compensation
7. It does not demand entirely new relationships with outside partners
8. It drains entrepreneurship and innovation from the organisational culture
9. It has no place for emotion and soul, but is a mechanical approach
10. It offers only one-size-fits-all solutions (Harari, 1997).

Salegna and Fazel (2000) surveyed the managers of 2,000 randomly selected manufacturing firms in order to investigate the main barriers to the implementation of TQM. They identified 12 such barriers, as follows:

1. Lack of time to devote to quality programme.
2. Lack of organisational communication.
3. Lack of staff empowerment.

4. Lack of trust between employees and senior management.
5. Politics and trust issues.
6. Lack of strategic plans for change.
7. Lack of motivation.
8. Perceiving the quality initiative as a quick solution.
9. Looking for short-term financial benefits.
10. Lack of leadership by senior managers.
11. Lack of a customer-oriented framework.
12. Lack of an organisation-wide definition of quality.

Despite several examples of the successful application of TQM, there are clearly some difficulties and failures in achieving the full implementation of this concept. For example, from their survey of 250 firms, Wilkinson and Witcher (1991) found that only a few organisations in the UK appreciated that TQM requires changing the organisational culture and management behaviours; here the main barriers towards full application of TQM were thus identified as reluctant managers and short-termism. Lam and Reshef (1999) argued that building a new management culture and destroying the old one involves a high risk of failure of the whole quality initiative. Moreover, implementing TQM requires managers and employees to be involved in many processes that may not be directly related to the organisation's main mission. In addition, continuous training schemes are costly.

The process of implementing TQM requires a comprehensive change in traditional management approaches that stress authoritarian control (Evans and Lindsay, 2011).

Managers may support staff participation, but they may also resist giving up their authority (McConnell, 1995). In addition, teamwork cannot be applied easily in an organisation where work methods emphasise individualism (Waldman, 1993).

Nwabueze (2001) noted the challenges that can face organisations when implementing TQM, such as the difficulties in changing the organisational culture; lack of management commitment; lack of teamwork; failure in developing effective future plans; poor measurement techniques; lack of training; individuals' resistance to change; focus on short-term profits, and high employee turnover. An organisation's management should be aware of the challenges before deciding to implement TQM. Adopting TQM is not a phase but rather a permanent action, and involves continuous improvement processes. TQM implementation requires a comprehensive transformation of cultural and values, long-term plans and commitment from all individuals in the organisation. The lack of managers' understanding of the principles of TQM can lead to an underestimation of the level of change required (Olian and Rynes, 1991). Jung *et al.* (2008) believed that the advantages of TQM do not always guarantee positive results, especially where individualism and long-term orientation are seen as barriers to its implementation.

Despite the criticisms, several quality experts and practitioners believe that the quality movement has been the most important and widely used management philosophy in the last two decades (Abbas, 2005). Evans and Lindsay (2011) associated the success of many companies in implementing TQM with the world becoming more quality conscious and noted that TQM-resistant organisations might not be in business for long. Shin *et al.* (1998) suggested that the failure of organisations in implementing TQM

might not lie with the scheme itself but be due to the failure of organisations to fully understand what TQM means and entails.

### 4.7. Discussion on TQM Literature Review

This chapter has provided a set of critical success factors that were taken and integrated from empirical studies across different sectors, including LIS. It shows that there are similarities between the quality principles in the LIS context and other contexts, from which it may be concluded that the quality concept can be applied successfully in LIS organisations to improve their performance, support services and satisfy users.

The studies discussed in this chapter have led to a number of observations. The vast majority of these studies were conducted in Western countries with an insufficient number of in-depth studies in Saudi Arabia. Accordingly, it is difficult to generalise the results to other different communities in terms of language, culture and management philosophy. Thus, it is necessary to carry out studies on a specific society, such as Saudi society, with the TQM application examined separately for each sector in each country (Mojtahedzadeh and Arumugam, 2011).

The majority of the studies discussed in this chapter have used different models to measure the actual performance of ICs, such as SERVQUAL, LibQUAL or ISO 9000. Studies applying the EFQM Excellence Model are limited to Western countries, and absent from the Saudi LIS literature. The absence of the use of mixed-methods research in the Saudi LIS literature has encouraged the researcher to utilise this research method, which is acknowledged as having the potential to help establish a new

approach in the literature (Alsuhaime, 2012). The utilisation of mixed-methods research can help to provide a deeper understanding of a complex situation, in this case, the application of TQM in Saudi university ICs.

In addition, the review of the literature identified the need to validate benchmarking as a beneficial tool to assess LIS organisations' performance. The benchmarking concept is not evident in the Saudi LIS literature, which indicates the need for it to be applied in several studies in order to ensure its validity and to identify its potential benefits to LIS organisations. This study aims to benchmark quality applications in Saudi ICs in order to discover the extent to which benchmarking is an effective approach to service improvement initiatives.

### **Summary**

This chapter provided a critical review of the published literature that discusses the various TQM principles and tools in general, as well as LIS in particular. It began with a discussion of the implementation of TQM in public service organisations. Literature on TQM in the global context, and in the Middle Eastern countries in particular, was also presented. It is clear that the successful application of the TQM concept could help ICs to improve their services and staff productivity and to increase user satisfaction. In particular, the application of a performance measurement tool might help ICs to identify points of weakness in their performance and to establish solutions to avoid them. The currency and future of the TQM concept in scholarly research and practice was discussed, including later variants of TQM and other related quality models which have been applied widely in LIS organisations. Criticisms of the TQM concept were presented,

including people's resistance toward change, managers' resistance toward losing their authority, and the failure of long-term commitment from management and staff.

Clearly, there is a gap between the literature written in English and that written in Arabic. This gap suggests that there is a need to for more research studies to be conducted to investigate the quality of service in Saudi university ICs, especially studies that investigate the application of the EFQM Excellence Model. It was the lack of the use of mixed-methods research in the study of quality in the Saudi LIS context, as identified in the literature that encouraged the researcher to implement it as a research method. The implementation of mixed-methods research requires a good understanding of its techniques, approaches, strengths and weaknesses.

Chapter Five discusses the research methodology, including a discussion of quantitative, qualitative and mixed-methods in order to explain the justification for the choice of research method for this study.



## CHAPTER FIVE: RESEARCH METHODOLOGY

### Introduction

This chapter outlines the ways in which the study was carried out; it also discusses the philosophy, design and approaches that lie behind the methods employed to collect data. This chapter also discusses the pilot study and how it gave the researcher the opportunity to test the research tools to ensure that they were understood by the participants. Moreover, the research sample, data collection, data analysis, research ethics, validity and reliability are discussed.

### 5.1. Research Philosophy

The nature of social research concerns the philosophical aspects of epistemology and ontology (Walliman, 2011a). Epistemology and ontology impact upon methodology; it is therefore necessary to define these terms in order to understand their impact. Epistemology refers to the question of “*what is regarded as acceptable knowledge in a discipline*” (Bryman & Bell, 2011: 16), which reflects people’s knowledge of reality. Ontology means the nature of reality (Walliman, 2011a). Each research paradigm has ontological and epistemological assumptions. The philosophical assumption or research paradigm is defined as follows:

*“A way of looking at the world; interpreting what is seen; and deciding which of the things seen by researchers are real, valid, and important to document” (LeCompte & Schensul, 2010: 57).*

There have been long-standing debates concerning the ways in which a research study can be conducted. Three dominant paradigms, positivism, interpretivism and pragmatism (Creswell, 2009), are discussed below.

Positivists utilise natural science methods to investigate *“social reality and beyond”* (Bryman, 2008: 28). Positivists test a theory through applying scientific methods that follow specified steps (Kvale, 2011) with fixed research variables. The outcomes of positivism study are expected based on some predefined causes (Creswell, 2009). The positivism paradigm is associated with the natural sciences and with the experimental approach that is based on the assumption that the phenomenon can be measured objectively. Positivism

*“looks at society as the focus for research, and through understanding its internal laws and establishing relevant facts, we can in turn understand how and why individuals behave as they do” (Walliman, 2011b: 73-74).*

Positivism is associated with quantitative methods to collect data in order to generalise results (Saunders *et al.*, 2012). Underlying the positivism philosophy are different assumptions, such as the researcher’s independence, testing hypotheses, and dividing the research problem into several parts (Easterby-Smith *et al.*, 2012; Robson, 2009). Johnson and Duberley (2011) emphasised that positivist assumptions provide a rationale for building theory in the social sciences; however, a major criticism of positivism lies in the nature of the phenomenon under study as people both act and

interpret their own and other people's actions, and this differs from physical objects (Robson, 2009).

Interpretivism arose as a response to criticisms of the positivist paradigm (Easterby-Smith *et al.*, 2012). Interpretive investigation concerns social actions and "*maintains that the view of the world that we see around us is the creation of mind*" (Walliman, 2011a: 21). This means that our beliefs influence our perceptions in experiencing the world. Interpretivists believe that there are "*differences between people and the objects of the natural sciences and therefore requires the scientist to grasp the subjective meaning of social action*" (Bryman, 2012: 30). Interpretivism is also associated with naturalism, where "*the social world should be studied in its 'natural' state, undisturbed by the researcher*" (Hammersley & Atkinson, 2009: 7).

Interpretive research aims to understand how things happen in one place at a specific time and to compare the results with other studies in different places and times. Interpretive research tends to be associated with qualitative research methods in the collection of data, and tends not to generalise its results. In contrast to positivism, which focuses on understanding the physical world, the interpretive approach aims to understand the social world. In terms of the role of the researcher in these two approaches, the researcher who undertakes quantitative research aims for detachment in order to avoid bias, whilst the qualitative researcher is more involved in the phenomenon under investigation and bias is expected (Bryman, 2012).

Respecting the differences between human beings and objects in the natural sciences is the main reason for the emergence of this paradigm (Bryman, 2012). The central idea of this philosophy is the focus on the ways in which people act and share their values and

experiences, rather than on objective factors. Interpretive researchers believe that social science research is more sophisticated than pure science; the relationship between the investigator and the investigated case cannot be separated (Bryman, 2012).

It has been argued that positivism and interpretivism paradigms can be merged to develop a new middle paradigm - pragmatism (Creswell, 2009). This paradigm is associated with mixed-method research, which combines two different methods to explore a phenomenon. Its main concept is using 'what works' to understand the research problem and to try to draw a clear picture concerning what happens on the ground (Biesta, 2010). Jick (1983) has argued that quantitative and qualitative research methods are not opposites but are rather complementary. Creswell (2009) and Tashakkori & Teddlie (2008) have pointed out that pragmatists focus more on the research problem rather than on the methods or paradigms used. In pragmatism, the main drive of the research is the research problem, which gives the researcher the freedom to adopt different tools to answer the research questions.

Notably, pragmatism has become popular in social science research for its epistemological and methodological flexibility (Greene, 2008). Ontology, epistemology and methodology are three aspects that define the assumptions about knowledge and the way in which knowledge is built (Beynon-Davies, 2002).

Research methodology has been defined as:

*"A broad approach to scientific inquiry specifying how research questions should be answered. This includes worldview consideration, general preferences for design, sampling logic, data collection and analytical strategies, guidelines for making*

*inferences, and criteria for assessing and improving quality*" (Teddlie & Tashakkori, 2009: 21).

Research methodology is a set of procedures and rules to guide research and against which its claims can be assessed (Robson, 2009). Cooper and Schindler (2011) suggested that the presentation of research methodology should include sampling design, data collection, data analysis, and limitations or constraints that the research faced. Choosing the right research methodology depends on various criteria, such as the aim of the study; the type of information needed; the character of respondents; manipulation of independent variables; the degree of control that the researcher has over the case under study; and constraints of time and money (Saunders *et al.*, 2012). There is no right or wrong methodology, though the researcher should apply the most beneficial method available.

Saunders *et al.* (2012) has argued that there is a misunderstanding in terms of the difference between research methodology and research methods. Research methodology refers to *"how research should be undertaken, including the theoretical and philosophical assumptions upon which research is based and the implications of these for the method or methods adopted"* (Saunders *et al.*, 2012: 481). On the other hand, research methods are general approaches of performing research. A research normally uses one or multiple research methods such as laboratory and field experiments, surveys, case studies, forecasting, simulation, action research, and ethnographies.

Identifying the research questions is the first step in conducting research (Bryman, 2007). The research questions and methods were identified at the start of this study and were influenced by several factors. First, the researcher started his research with

some concern about the quality of services in the Saudi ICs. He conducted a literature review that helped him to develop preliminary research questions. Before finishing the first year of study, the researcher took training courses in research methods and TQM, which were very beneficial in giving the research more direction to investigate the applications of TQM in the Saudi university ICs. The researcher’s view of social reality has evolved throughout the research process from reading the literature and through discussions with fellow researchers, which have led him to understand more fully the value of pragmatist views. Consequently, a quantitative method (questionnaire) and a qualitative method (interviews) were adopted as ways to investigate the research problem.

Different elements should be taken into account when the researcher wants to choose a paradigm. These elements include ontology, epistemology, methodology and the researcher’s role. These elements are presented in Table 5.1.

**Table 5.1:** Research paradigms (Creswell & Plano Clark, 2011: 42)

<b>Paradigm Element</b>	<b>Positivism</b>	<b>Interpretive</b>	<b>Pragmatism</b>
<b>Ontology</b>	Single reality	Multiple realities	Single and multiple realities
<b>Epistemology</b>	Empirical (objectively)	Close to participants (subjectively)	What work to address research questions
<b>Methodology</b>	Deductive	Inductive	Combining inductive and deductive
<b>Researcher role</b>	Not biased	Biased	Unbiased in the quantitative phase and involved in the qualitative phase

The application of TQM in Saudi university ICs is a complicated social phenomenon; consequently to ensure understanding, and 'to use what works', both positivist and interpretivist views are adopted in this study in interpreting the research problem. Although in qualitative research, the researcher is more involved in the phenomenon under investigation and thus some bias is expected, in this study bias was reduced by the implementation of mixed-method research and the interview transcripts and categories were reviewed by other researchers (see Section 5.9.2).

The application of TQM in the case of Saudi university ICs is rare, accordingly the researcher utilised a triangulation of methodologies (quantitative and qualitative) in order to achieve the required evidence for this study. It was considered that a positivist approach was more suitable for answering the research questions related to the existence of quality practices and applications in the Saudi university ICs, while the interpretivist approach was used to explore the factors shaping the applications of TQM.

### **5.2. Research Design**

Research design has been defined as the framework in which the research fits, based upon the research problem (Walliman, 2011a). There are two approaches defining the link between research and theory, namely inductive and deductive (Bryman, 2012). In deductive inquiry, the research starts with a theory that is either proven or disputed (Neuman, 2011). On the other hand, inductive inquiry uses data to generate theory (Patton, 2010). In this study, the two inquiry approaches were adopted in investigating the application of TQM in the Saudi ICs. The deductive design, involving the use of questionnaires, was used in this study to evaluate the quality practices within the ICs

under investigation, whilst the inductive design, which in this case involved semi-structured interviews, is beneficial in settings that require immersion in the research context to achieve a deeper understanding of the research problem. Hence, an inductive approach was employed to investigate the factors shaping the quality practices in the Saudi ICs through the investigation of the individuals' views in order to achieve better understanding of the research problems.

After reviewing the literature on research methods, developing the research objectives and questions, and considering all methodological limitations, the researcher decided that a triangulation method would be appropriate for this research, where questionnaire and semi-structured interviews were used in a complementary way. This decision was based on the following reasons:

- This study to investigate the applications of TQM in university ICs was to be conducted in Saudi Arabia through exploring managers' and staff views towards several aspects of the quality concept. It also aimed to identify the elements of TQM that shaped the quality movement in that context. Achieving these objectives required the employment of two approaches (quantitative and qualitative) as the main data collection methods. In addition, differences between managers' and staff views regarding TQM required the implementation of more than one research method in order to reach a deeper understanding of the research problem.
- As presented in Chapter Four, there are a limited number of studies investigating in-depth the applications of TQM in the Saudi LIS context. All of these studies implemented quantitative research methods only, with no use of qualitative or



mixed-method research. Implementing mixed-methods in the investigation of the application of TQM may help in terms of enriching the Saudi literature in the area of service quality in LIS.

- Case study research was used in this research due to the lack of research studies investigating the applications of TQM in the Saudi university ICs. The complexity of the real situation of Saudi university ICs regarding the quality of services needed an in-depth investigation through case study research. It was considered that case study research would fit the study objectives by focusing on provide a rich description of the situation in Saudi university ICs regarding the applications of TQM.
- Data triangulation adopts different methods of data collection within one study in order to increase the research validity and reliability. Triangulation is a valuable approach to combine results emerging from semi-structured interviews and questionnaires to achieve better understanding of the research problem (Saunders *et al.*, 2012).
- The quantitative results provide summaries and comparison, whilst the qualitative results provide explanations of actions and attitudes to reach new ideas to increase our understanding of the research problem. Figure 5.1 shows the design of this study.

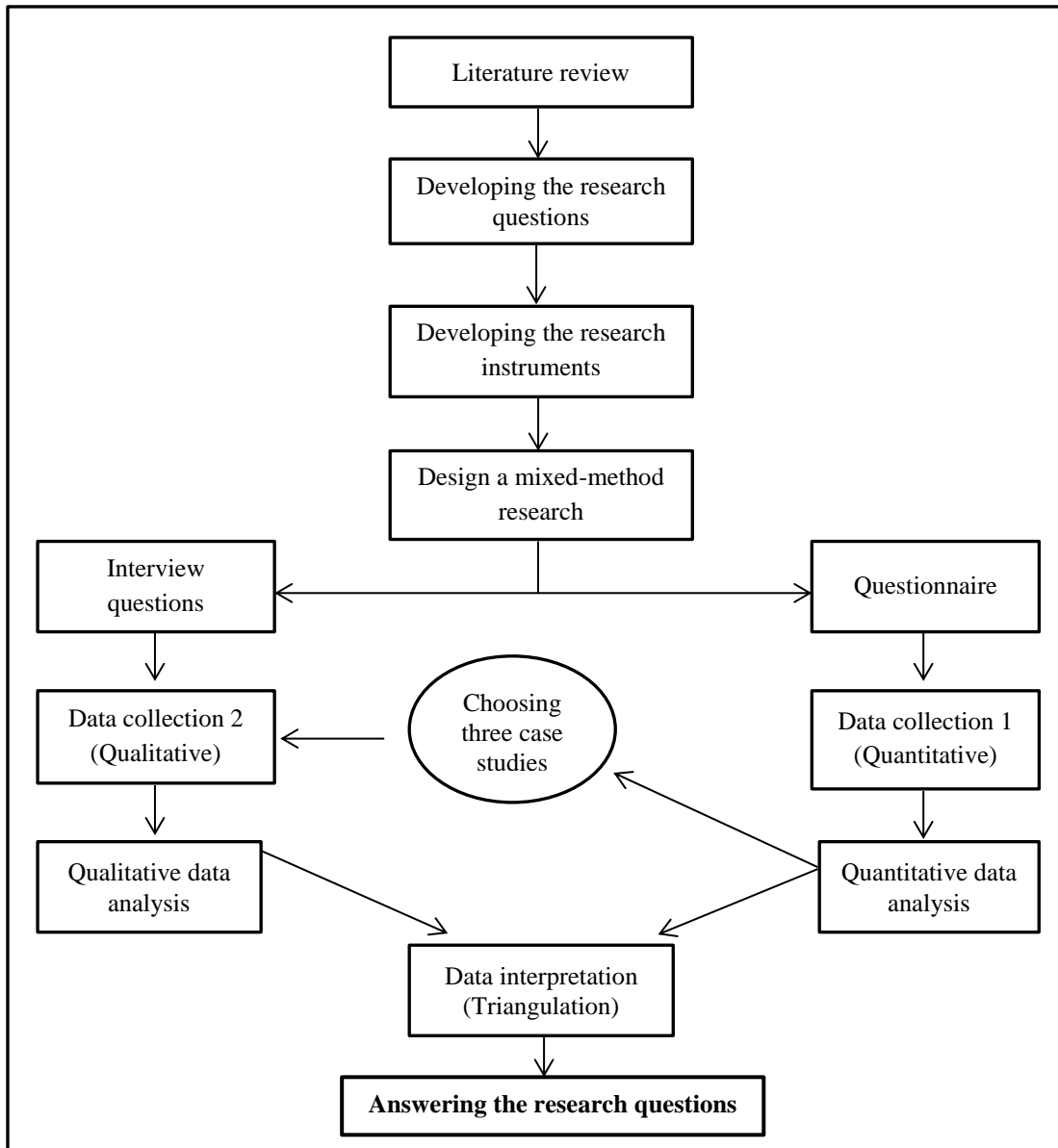


Figure 5.1: The design of this study.

### 5.3. Research Methods

The literature on research methods indicates two different approaches associated with conducting a research study: qualitative and quantitative research. This literature also showed that each of these approaches has advantages that make them appropriate for a

specific piece of research based on the nature of the study, research objectives, questions and hypotheses. Research methods are also categorised in terms of whether they take a positivist, interpretive or pragmatic philosophy. Positivist philosophy uses quantitative methods, interpretive uses qualitative methods and pragmatism uses both quantitative and qualitative methods in collecting and analysing data (Beynon Davies, 2002). These research methods are discussed in the following sections so as to identify the differences between them and to choose the most appropriate research approach for this study.

### **5.3.1. Qualitative Research**

A qualitative research approach is defined as “*a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem*” (Creswell, 2009: 4). Flick (2011a) described it as an approach for gathering text data in order to provide a deeper understanding concerning everyday practices regarding the issue under study. Bryman and Bell (2011) believed that the difference between qualitative and quantitative research approaches is not limited to the data collection method but also involves the role of theory and epistemological and ontological issues. The qualitative approach focuses on producing meanings and interpretations of the research issue through studying participants’ knowledge and attitudes (Flick, 2011b).

The naturalistic design of qualitative approaches allows the research to take place in a natural setting (Patton, 2010). The inductive design of inquiry is used in qualitative research, as it focuses on exploring meanings to build patterns from the results (Patton, 2010). The questions asked in qualitative research are open-ended in order to generate

themes from the data (Creswell, 2009). There are several methods in the arena of qualitative research, such as case studies, ethnography, and grounded theory. Generalisation is problematic in qualitative research, due to the fact that it reflects the reality of participants that may be different from one context to another.

Case studies are used widely in social science research as a method of data collection. Yin (2009) defined case study research as a research method that *“investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident”* (Yin, 2009, 13). The case study is a comprehensive research strategy to investigate the research problem where the context is part of the design (Yin, 2009). Goode and Halt (1952) stated:

*“The case study, then, is not a specific technique. It is a way of organising social data so as to preserve the unitary character of the social object being studied. Expressed somewhat differently, it is an approach which views any social unit as a whole. Almost always, this means of approach includes the development of that unit, which may be a person, a family or other social group, a set of relationships or processes... or even an entire culture”* (Goode and Halt, 1952: 331).

The case study is an approach centred on investigating a research problem through following pre-specified procedures. It is an appropriate strategy to investigate social processes and has deep roots in organisational research. It is able to answer “why” and “how” questions instead of “who” or “how many” questions. Thus, when the problem under investigation is contextual, the case study is an appropriate approach to choose (Creswell, 2009).

The case study method usually observes the characteristics of an individual unit or an organisation, in order to refine knowledge (Yin, 2009). It is a comprehensive description and analysis of single or multiple situations to investigate contextual conditions that might influence the investigated phenomenon. In real life, the context and phenomenon are not always distinguishable (Yin, 2009). The case study approach relies on multiple sources of evidence in order to achieve triangulation in order to achieve a deeper understanding of the research problem (Creswell, 2009).

Yin (2009) divided case study research into single and multiple, based on the number of cases. Moreover, he divided this type of research into three types, based on its design. The exploratory case design—which aims to define the research questions and form hypotheses—and the data collection related to it are carried out before the theories or research questions are devised. Furthermore, an explanatory case study is concerned with explaining a course of events and relationships between things, and the way in which these happen, whilst the descriptive case study describes different characteristics of the specific phenomenon under study, with a theory to guide the data collection process.

The case study method is able to combine quantitative and qualitative research approaches, as it involves several techniques of data collection. This combination of two research approaches can increase the validity of the findings (Stake, 1995). In addition, Bryman (2012) and Yin (2009) pointed out that case studies can provide analytical generalisation rather than statistical generalisation. The former focuses on generalising a theory of the phenomenon under investigation, where this might be applied in other cases. The case study approach is able to provide a comprehensive and in-depth

understanding concerning a phenomenon through the collection of data via different techniques, such as interviews, observation, memos, and note-taking (Shekedi, 2005).

Several concerns have been identified regarding the case study approach. Huber and Snider (2006), for example, argued that the major weakness of case studies is the lack of results that can be generalised to the wider community, owing to the fact that it emphasises specific cases only. Another concern about case study design is related to the researcher's bias, which may influence the research findings (Yin, 2009).

Oskamp and Schultz (2005) pointed out that qualitative data are often collected by interviews, which are designed to determine research sample attitudes and opinions that cannot be measured quantitatively. Kvale (2011) defined interviews as an interaction between the interviewer and the interviewee to build knowledge. It makes the interviewer more able to notice the interviewees' reactions and non-verbal behaviours, especially in complex situations. The main objective of the interview is to understand interviewees' views and experiences in an attempt to discover the meaning behind their perceptions (Kvale, 2011). The interview can be conducted individually or in groups. It can also be conducted by different means, such as telephone, or in electronic form. On the other hand, various limitations are associated with this approach: it is time-consuming, the data can be difficult to analyse, and there is potential researcher bias; in addition, some participants are reticent when asked to provide sensitive information (Gubrium and Holstein, 2002).

The literature on research methods identified three forms of interviews: structured, semi-structured and unstructured interviews (Creswell, 2009). In structured interviews, a set of scheduled questions is posed to all the interviewees to collect the

same data from each. Semi-structured interviews are also scheduled questions, but this type of interview is flexible and gives the interviewer the opportunity to develop and ask new questions according to the interviewees' answers. Unstructured interviews give the interviewer more freedom in asking questions, with a list of topics that need to be addressed during the interview. The interviewer is responsible for encouraging the interviewees to tell their stories. The questions asked in this type of interview are informal and respondents use their own experiences to express their views (Bryman, 2012; Patton, 2010).

Interviews can be conducted with individuals or with groups. In individual interviews, the researcher attempts to cover a specific list of topics and manage overall time and the time allocated to each question by devoting extra time to some questions more than others depending on the topic (Proctor, 2005). Cooper and Schindler (2011) indicated that individual interviews provide many advantages including yielding the richest data, new insight and detail, since direct contact with respondents provides opportunities to explore topics in-depth through asking open-ended questions. Moreover, direct contact gives the researcher the opportunity to observe a respondent's feelings and reactions to certain topics. Its limitations are that the researcher needs the necessary skills to manage the interview and that the study should have the time required for interviews to be arranged and conducted with the target sample; in addition, the volume of information gathered can be large and thus difficult to analyse (Cooper and Schindler, 2011).

Regarding the group interview, Frey and Fontana (1991) have suggested that it has four purposes: exploratory, pre-testing, triangulation and phenomenological research. The

group interview is an effective way to collect data in order to obtain opinions or attitudes from different interviewees at the same time. Denzin (2009) has indicated that groups can create their own structure and meanings and that a group interview is able to provide access to their level of meaning, clarify arguments and reveal differences in views. Lofland and Lofland (2009) suggested that group interviews can act as a supplement to the traditional individual interview. A group interview is also effective in helping the researchers to gain an understanding of the participants' experiences or *"understand how talk works to co-construct a shared reality"* (Currie and Kelly, 2012: 407). In a group setting, participants are able to respond to other views, obtain feedback on their views of reality, and the researcher can experience the participants' reality through interaction and unstructured interviewing. Thus, the group interview is able to establish inter-subjectivity (Shutz, 1976). Group interviews enable the researcher to share the experience of the observed participants. Connaway and Powell (2010) pointed out that the group interview is a useful technique that helps the researcher to find out how a specific group thinks and why the group thinks as it does. It gives the researcher the opportunity to probe and develop new questions through discussion. By interviewing more than one person at a time, the researcher is able to increase the range and number of participants taking part in the research (Denscombe, 2011). In addition, the group discussion allows interviewees to listen to different views and allows the interviewees to express support for some views and to challenge others, which may make the discussion more fruitful.

On the other hand, Connaway and Powell (2010) identified some limitations regarding group interview, including potential bias caused by the interview setting and introduced by the interviewer, which may affect the results. The interviewees might hesitate in



providing sensitive information in front of others, and fear of criticism is also considered a limitation of group interviews. In addition, groupthink is likely in group interviews, where people adjust their own behaviour or opinion in response to their impressions of other group members (Brewerton and Millward, 2011).

### ***5.3.2. Quantitative Research***

The second research approach is quantitative, which is a deductive approach utilising numbers and statistical techniques to measure specific aspects of a phenomenon in order to generalise the results amongst a wider population. Bryman (2012) defined quantitative research as a research method that emphasises quantification in the data collection and analysis. The design and conceptual framework come together to highlight the way in which variables are arranged in relation to each other. Quantitative research is unbiased, and its design allows the researcher to manipulate the variables and to control the research environment (Connaway and Powell, 2010). The quantitative research approach adopts an objective view of social reality as the researcher applies scientific methods to test a specific theory (Bryman, 2012). Generalisation of research results in a larger population is an important aim of quantitative research, in contrast to qualitative research methods, which lack the ability to generalise results amongst a wider population.

The main strength of quantitative research lies in control, which involves the strict application of procedures to reduce bias and erroneous conclusions. Control is exerted by several approaches, including random sampling and the use of a comparison group.

In a quantitative study, a survey is widely used as a tool for data collection. Statistical data concerning people's behaviours and values can be generated through surveys during which all participants are asked the same sets of questions. In quantitative research, the questionnaire is a popular unbiased technique that measures participants' reactions to a phenomenon (Creswell, 2009). The questions are in a standardised form, the results of which can be generalised amongst the wider population. This enables the researcher to reach a large number of participants easily with only low costs (Gratton and Jones, 2011). Data collection can be done via post, online, telephone or face-to-face. These approaches are different in terms of cost, speed of response, and sample size. However, the use of questionnaires has various disadvantages; for example, there are difficulties in clarifying answers from the participants; the results are not deep enough to fully understand the problem; and the participants may misunderstand the questions, which may affect the overall results. Furthermore, there are several points that must be taken into account when constructing questions for questionnaires: each question must be unbiased, written in a simple language, and must emphasise one topic only, and hypothetical questions that lead to hypothetical answers must be avoided (Saris and Gallhofer, 2007).

Sue and Ritter (2012) identified five steps in developing a questionnaire: first, establishing the required information and population to be studied; second, selecting the questionnaire type (online or personal); third, developing and checking the first draft; fourth, revising and testing the questionnaire; and finally, checking the questionnaire's reliability and validity.

There can be two types of question in a questionnaire: closed-ended and open-ended.

Closed-ended questions allow participants to choose one or more answers from those provided. The Likert scale, which is the most popular instrument utilised for answering such questions, allows participants to specify their level of agreement to each statement. Different formats are based on the number of answers used in the scale, with the five-point Likert scale widely used in social science research (Fink, 2009). Morrow *et al.* (2011) stressed that this type of questions is easy to code for computer analysis and is characterised by a high level of responses. However, the results obtained are not deep; the answers provided may not reflect the respondents' actual opinions, and bias is clear because the respondents' choice of answer is limited to the statements given by the researcher (Kumar, 2011).

The open-ended question, in contrast, enables respondents to answer questions freely by providing their opinions and ideas in a written form (Brace, 2013). The data obtained are difficult to analyse and hard for respondents to complete, and the level of response is low compared with closed-ended questions (Ruane, 2007).

The differences between quantitative and qualitative research approaches are presented in Table 5.2.

**Table 5.2:** Differences between qualitative and quantitative research approaches (Gill, 2011).

Criteria	Qualitative Research Methods	Quantitative Research Methods
<b>Philosophical assumption</b>	Interpretivism	Positivism
<b>Purpose</b>	Explore phenomena and describe individual experiences	Confirm hypotheses about phenomena and describe characteristics of the population
<b>Method</b>	Inductive, hypotheses are developed based on data collected	Deductive hypotheses and theory are tested with data
<b>Instrument</b>	Semi-structured methods: interviews and focus group	Highly structured methods, e.g. questionnaire, survey
<b>Format</b>	Open-ended questions	Closed-ended questions
<b>Data</b>	Texts	Numbers
<b>Analysis</b>	Seeking for pattern and themes	Seeking statistical relationships
<b>Flexibility</b>	Some study aspects are flexible	It is stable from beginning to end
<b>Objectives</b>	Exploration and discovery	Explanation and prediction
<b>Nature</b>	Subjective	Objective
<b>Findings</b>	Particularistic findings	Can be generalised

### 5.3.3. Mixed-methods Research

Mixed-methods research is an approach that combines quantitative and qualitative research in one single study, and benefits from the advantages of these methods to provide a rich picture regarding the overall research problem (Creswell and Plano Clark, 2011). Creswell and Plano Clark (2011) provided a comprehensive definition of this method, focusing on the philosophical assumption and the method:

*“A research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves the philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on*

*collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies.” (Creswell and Plano Clark, 2011: 5).*

In terms of philosophical assumption, mixed-methods research is based on pragmatism (Creswell, 2009; Creswell and Plano Clark, 2011; Johnson *et al.*, 2007). Tashakkori and Teddlie (2009) described mixed-methods research as the third methodological movement, which allows the researcher to base knowledge claims on pragmatic grounds and uses different strategies of inquiry in collecting data either simultaneously or sequentially to achieve a better understanding of the research problem (Creswell, 2003).

Creswell (2009) and Tashakkori and Teddlie (2009) identified the relationship between pragmatism and mixed methods research as follows:

- Pragmatism is not limited to any philosophy, which also applies to mixed methods research, in that inquirers draw from both qualitative and quantitative assumptions when they are combined in one study.
- Pragmatists do not see research as an absolute unity and mixed-methods researchers use different techniques for collecting and analysing data rather than using one technique, whether qualitative or quantitative.
- Pragmatists use “what works” in order to understand the reality. Mixed methods researchers use both quantitative and qualitative data because they are able to provide a better understanding of a research problem.

- Pragmatism enables the mixed-methods researchers to use different methods, to make different assumptions, to collect different forms of data, and to carry out different kinds of analysis.

Mixed-methods researchers argue that traditional research approaches (qualitative and quantitative) complement each other, and that one research method alone is not sufficient to develop an understanding of various complicated social phenomena (Zydziumaite, 2007). Johnson *et al.* (2007) pointed out that mixed-methods research provides evidence from qualitative and quantitative methods to support a theory or hypothesis and, accordingly, make the data analysis process more productive. Furthermore, Johnson and Waterfield (2004) stressed that the mixed-methods design emphasises the impact of the environment, which helps the researchers to expand their understanding of the examined phenomenon. Owing to its length, more resources and effort are required, as well as the experience of both research methods, which can be seen as limitations of mixed-methods research (Bergman, 2008).

Combining two research methods in one single study is known as “triangulation” (Saunders *et al.*, 2012). Creswell *et al.* (2009) stated that researchers have been referring to studies that combine qualitative and quantitative methods under a variety of names such as mixed-model studies or triangulation. Saunders *et al.*, (2012) argued that more than one method should be used in the validation process to ensure that the variance reflected is that of the trait and not of the method. By using this method, data on the same phenomenon can be studied using different approaches: the first approach acting as a background study while the second approach extends the findings from the

first. Jick, (1979) stated that triangulation provides researchers with several important opportunities. The overall strength of the mixed methods design is that it allows researchers to be more confident of their results. It can also stimulate the creation of inventive methods and produce new ways of capturing a problem in contrast to conventional data-collection methods.

Importantly, mixed-methods research is widely used in social science research, simply because it provides a better understanding of social interactions (Creswell, 2009). Mixed-methods research includes various different strategies based on the synchronisation of the procedures of collecting and analysing data, whether sequential or concurrent. These strategies can be divided in terms of which method is used before the other (Creswell, 2009). In sequential strategies, there are explanatory and exploratory studies. For example, in the case of sequential explanatory strategy, where quantitative data are collected and analysed in the first phase, qualitative data are collected and analysed during the second phase in order to explain and expand the quantitative data. In the final stage, these two sets of results are connected to each other, with the qualitative results subsequently built on the quantitative results (Creswell and Plano Clark, 2011). This strategy is able to explore the phenomena in more detail, especially when unexpected outcomes appear from the quantitative results (Morse, 1991). The second type is the exploratory strategy, when the qualitative data are collected and analysed first, followed by the collection and analysis of quantitative data. This can assist in developing a quantitative instrument that helps to generalise the results (Creswell and Plano Clark, 2011). These two strategies share the same disadvantages in terms of being both time- and resources-consuming; in addition, the researcher needs to have experience in using both research methods (Creswell, 2009).

#### 5.4. Choice of Research Methods and Design

This study sought to obtain IC staff members and managers' views regarding TQM applications in a detailed way, which could not be achieved by the use of one research method alone. In addition, the staff in the Saudi university ICs, who are isolated from the management activities as shown in Section 4.2, may perceive the TQM concept differently from their managers. While quantitative data usually gives answers on specific aspects of issues, it needs to be complemented by in-depth qualitative results that help to provide a clear picture about the research problem. A middle ground that combines the advantages of these two research methods to achieve valuable results could be the solution.

The mixed-methods approach seemed to be the most appropriate research approach for this study as it would combine general results from the quantitative phase with an in-depth qualitative understanding of the topic of TQM in Saudi university ICs. The use of one research method alone is not sufficient to gain an understanding of a complicated social phenomenon, such as TQM, where "*multiple realities often call for multiple methodologies*" (Glazier, 1992: 208). Furthermore, mixed-methods research improves a study's persuasiveness by taking the advantage of two research methods, which might reduce the researcher's bias by combining two sets of data. Onwuegbuzie and Johnson (2006) indicated that qualitative and quantitative approaches in research are complementary: each approach can support the other, and minimise any weaknesses in one approach.

A sequential explanatory design, whereby quantitative data were collected in the first phase and qualitative data collected in the second phase, was applied in this study for



several reasons. It is a straightforward design that provides opportunities for the exploration of the quantitative results in more detail. In addition, quantitative data and qualitative data are integrated in the interpretation phase of the study, which helps in the achievement of deeper and valid conclusions. Morse (1991) has suggested that sequential explanatory design is the best research design to investigate a phenomenon where unexpected results might emerge. Due to the limited applications of TQM in the Saudi LIS context, unexpected results are a possibility, thus this design seemed to be appropriate for this study. The expected benefit from the explanatory approach is that the quantitative data and their subsequent analysis provide a general understanding of the research problem, while the qualitative data and their analysis interpret those statistical results by investigating participants' views in more depth (Creswell, 2009; Ivankova *et al.* 2006). In the quantitative phase of this study, the quantitative research questions focused on the extent to which TQM principles had been applied in the Saudi ICs and the statistical differences between the ICs regarding the application of TQM. In the qualitative phase, in the light of the quantitative data, selected cases were investigated more deeply by interviews in order to discover why and how the application of TQM differed from one IC to another. A number of studies in the quality literature have used a sequential explanatory design, including Al-Musleh (2010), Alnabhani (2007), Bani Ismail (2012), Halank (2010), Sadeghian (2010), Twaissi, (2008) and Youssef (2006).

The sequential exploratory design, whereby qualitative data are collected in the first phase followed by the collection of quantitative data, was excluded in this research based on the argument made by Creswell (2009) and Teddlie and Tashakkori (2009) that this design is only recommended when the researcher aims to develop a new

quantitative tool. This was not the case for this study, which used a questionnaire based largely on an existed and widely employed quantitative tool, namely the EFQM Excellence Model.

Concurrent design involves collecting both quantitative and qualitative concurrently or roughly within the same timeframe. This design was not applied in this research for a number of reasons: great effort and expertise is required to investigate a phenomenon with two separate methods at the same time, and it is difficult for an individual researcher to collect quantitative and qualitative data concurrently (Teddlie and Tashakkori, 2009). The results of two analyses using data of different forms are difficult to compare. In addition, a researcher may be unclear how to resolve discrepancies that arise in the results (Creswell, 2009).

### **5.5. Research Sample**

Sampling has been defined as a process of gathering data from a subset of a population (McDaniel and Gates, 2013). McDaniel and Gates (2013) also defined a population as units or people that the researcher attends to gather information: it can be a community, organisation or anything that has some sharing characteristics. The research sample allows the researcher to gather information about the phenomenon under investigation through focusing on a subset of the population (Creswell, 2009). It is useful specifically if the population is too big to be studied in total. This study sample for this research was limited to the staff and managers of the ICs included in the study.

### **5.5.1. Quantitative Research Sample**

The Saudi universities can be divided into two categories: pre-1990 and post-1990 universities (section 2.3). During the pilot study, it was discovered that the organisational and administrative structures of the post-1990 universities are incomplete, the infrastructures are weak and the administrative structures are premature. Most of the post-1990 universities have small ICs in terms of collections and the number of staff. On the other hand, the pre-1990 universities are more mature in terms of administrative and organisational structures. Al-Musleh (2010) and Al-Sinan (2004) recommended that a concept like TQM is more appropriate for complete organisations; thus, it was decided to exclude the post-1990 universities from this research because these universities are incomplete organisations in terms of resources, facilities and administrative and organisational structure. In addition, the post-1990 universities were under evaluation during the data collection period because of the reforming and developing programmes imposed by the government. Other considerations for excluding post-1990 universities were due to limited time and access. It will be beneficial to conduct further research to investigate TQM applications in post-1990 universities and to compare the results with those of the current study, in order to discover the differences between less developed ICs and developed and well-established ICs regarding the implementation of TQM.

The participants in the pilot study (section 5.6) were excluded from the main study due to the researcher's concern that their responses could be affected by their past experience of the questionnaire or of the interview questions. Thus, the total number of IC staff in the remaining six Saudi ICs under investigation was 464. As this number was not too

big, all of these staff were asked to take part in the quantitative phase in order to obtain as much data as possible. In the Saudi context, there are three titles for staff in LIS organisations. The title “Librarian” refers to the LIS professional responsible for librarianship duties, while the title “Library Assistant” refers to the staff members who are usually not specialised in LIS but who help librarians in their functions, such as cataloguing. Staff members with the job title “Other” are not specialised in LIS and are responsible for clerical work only. Table 5.3 shows the participants in the quantitative phase in the six universities. It is noticeable that UAU had the highest response rate, with more than 83 per cent of IC staff, whilst KSU had the lowest response rate with 59 per cent of IC staff.

**Table 5.3:** Participants in each IC

No	University	IC Staff	Participants	%
1	UAU	49	41	83.6
2	KAU	73	58	79.5
3	KFUPM	52	39	75
4	KFU	49	36	73.5
5	IU	48	30	62.5
6	KSU	193	114	59
<b>Total</b>		<b>464</b>	<b>318</b>	69%

### **5.5.2. Qualitative Research Sample**

In the qualitative phase, the research was limited to three universities due to time, distance and access considerations. These three universities were KSU, KAU and KFUPM. The IC managers in these three universities were asked to participate in individual interviews, as they had strategic views and a role to play in applying the TQM

concept within their ICs.

The aim of interviewing some of the IC staff was the need, established through the pilot study, to discover their opinions about various staff-related issues, such as training, teamwork, motivation, management style and their participation level in managing their ICs. These staff participants in KSU, KAU and KFUPM were chosen by dividing the staff population in each IC into three groups, based on their title (Librarian; Assistant Librarian and other). The researcher attempted to interview as many participants as possible in order to obtain different points of view regarding the research problem. However, it was found that the people did not like to be committed to research activities that might take a long time. In addition, some of the interviewees might not have expressed their opinions due to the fear of criticism from managers, which reduced staff enthusiasm for being involved in the interviews. As a result, the number of interviewees of each title did not exceed five; in some cases there were only three interviewees. The details of the interviewees are provided in Table 5.4.

Table 5.4: Interviewees' details

University		Interviewees
KSU	Individual interviews (4)	Dean
		Associate Dean (Technical affairs)
		Associate Dean (Administrative affairs)
		Library Manager
	Group interview (10)	Staff (Five Librarians and five Library Assistants)
KAU	Individual interviews (5)	Dean
		Associate Dean (Technical affairs)
		Associate Dean (Administrative affairs)
		Quality Unit Manager
		Library Manager
	Group interview (9)	Staff (Five Librarians and four Library assistants)
KFUPM	Individual interviews (3)	Dean
		Associate Dean
		Library Manager
	Group interview (8)	Staff (four Librarians and four Library assistants)

### 5.6. Pilot Study

The objective of the pilot study was to test the research tool, and refine it if needed, to ensure that respondents would not face problems in answering the questions. The questionnaire was developed by the researcher based on the EFQM Excellence Model (2000). After completing the first draft of the questionnaire, a pilot study was carried out in two of the Saudi university ICs to ensure that the questionnaire was understandable and easy to answer. These two ICs were IMBSIU and QU, chosen according to time and distance considerations but also because IMBSIU represented the pre-1990 universities, whilst QU was representative of the post-1990 universities. The decision to choose one university from each category of Saudi universities was an attempt to discover if the pre-1990 universities were different from the post-1990

universities regarding the application of TQM. The pilot study investigated 40 participants in these two ICs in the quantitative phase (27 in IMBSIU and 13 in QU). In the qualitative phase, the interviewees were two managers and three heads of department in IMBSIU, and two managers and two heads of department in QU.

The pilot study was very valuable to the researcher as it enabled him to develop his skills in gathering and analysing both quantitative and qualitative data. The pilot study gave the researcher the opportunity to learn how to deal with different personalities and to respect individuals' rights and research ethics. It also gave him some skills in developing new questions during the interview and he became aware of some important ethical issues. Through undertaking the pilot study, it was found that the time needed to complete the questionnaire was no longer than 45 minutes and that the interview could be completed within 60 minutes.

Following the successful application of the data collection and analysis procedures in the pilot study, it was decided that the same steps be followed in the main study amongst a wider population. It was during the pilot study that it was discovered that the organisational and administrative structures of the post-1990 universities were incomplete, and the infrastructures weaker, than in the pre-1990 universities. Thus it was decided that the post-1990 universities be excluded from this study, with the focus instead directed towards the pre-1990 universities only. In addition, the pilot study revealed the need to involve some of the IC staff in the qualitative part of the study, i.e. in interviews, in an attempt to discover their opinions about the research problem in more depth.

### 5.7. Research Ethics

Research ethics should guide the research process and control the relationship between the researcher and other individuals involved in it (Saunders, 2007). Research ethics require the respecting of others' rights, opinions and dignity, whether they are research followers or participants, and should also protect the findings about individuals from being used illegitimately. Bryman (2012) identified some ethical issues that should be emphasised in conducting social research, namely participant anonymity to ensure that the participant's identity is kept anonymous; informant consent to ensure that the participant agreed to take part in the research; and privacy to ensure that the participants' privacy is protected. Teddlie and Tashakkori (2009) added another ethical aspect and suggested that the research should include no risk to participants.

This study was guided by the research ethics guidelines of the Information School at the University of Sheffield. Before conducting the research, the information sheet (Form 1, Appendix C) was provided to participants, which explained their rights, the purpose of the research, and the rationale for choosing them for this research. In the online questionnaire, this form was the first page of the online questionnaire, and the participants were informed that by clicking on the 'Next' button at the end of the first page they were agreeing to participate in this research. The information sheet and a consent form (Form 2, Appendix C) were provided with the paper-based questionnaire, stating that the participants agree to take part in this research and further advising that their signature was required. The participants were informed that they had the right to decide whether or not to participate in the study. The questionnaires were



administered both online and in hard copy, and the interviews took place in the IC premises during working hours.

During the research process, all the participants and interviewees were treated with respect. The researcher reviewed the consent forms to ensure that the participants and interviewees had signed the consent forms and thereby agreed to take part in the study. The interviewees were informed that the interviews would be tape-recorded. The participants were informed that their information would be treated confidentially and kept in a password-protected computer. Ensuring the confidentiality of the participants' data, identities, and views ensure that they are protected from any harm or embarrassment following the publication of the results of the research. The researcher ensured that the participants were not embarrassed or asked sensitive questions, and that their opinions were sought without any physical or psychological duress. Religious and social considerations were respected when conducting interviews. As the researcher is male, it was not permitted in Saudi culture for him to talk directly to females. This consideration was respected by using the online questionnaires to obtain data from female participants.

After finishing the data collection, the results were not modified in anyway, and bias was avoided. The participants were told that the records would be destroyed. A full report concerning the research findings will be given to those participants who have asked for one.

## 5.8. Data Collection

Data collection is an important step towards attaining a research study. Connaway and Powell (2010) suggested that the appropriate techniques for collecting data should be chosen carefully in order to draw a clear picture concerning the research problem. As this research adopted a mixed-methods research approach involving a sequential explanatory design, data were collected sequentially through using two different techniques: questionnaires and interviews. In the first phase, the quantitative data were collected through questionnaires distributed amongst the IC staff in the six university ICs, whilst qualitative data were collected from the managers and some IC staff through interviews.

Since the main objective of this study was to identify the quality elements and to present the critical success factors of TQM in Saudi university ICs, the unit of analysis was made up of the IC managers and staff: they were investigated because they are directly responsible for planning and implementing TQM. The legitimacy of focusing on managers and staff only, regarding the application of TQM, is that this approach had already been used in several studies in the quality literature, such as in Al-Madi (2005), Al-Musleh (2010), Alnabhani (2007), Alqoublan (2010), Bani Ismail (2012), Halank (2010), Sadeghian (2010), Twaissi, (2008) and Youssef (2006).

The rationale for investigating the managers in this study was built on the argument provided by Madu *et al.* (1996), who considered managers to be a good source of information on implementing quality principles in any organisation for several reasons including:

- Managers are supposed to have a high level of education, and have the best understanding of planning, decision-making and training, which play an important role in organisations, as well as having an understanding of all the influential factors such as the organisational culture, which could prove a barrier to the effectiveness of TQM.
- Managers are the executors of senior management decisions;
- Managers are positioned to interact with senior management in the parent organisation;
- Managers are able to understand the performance of the ICs as well as the reactions of staff regarding quality practices;
- Managers are able to understand quality-related issues and problems that may affect the IC performance
- Managers have the right information to respond to quality-related questions.

IC staff were involved in this study in order to investigate their views regarding staff-related issues such as motivation, training, empowerment, teamwork and management style implemented in their IC, which are fundamental principles of TQM. In addition, the pilot study (section 5.6) showed the need to involve staff in the qualitative phase (interviews) in order to discuss staff-related issues in-depth, which in turn may help in reaching deeper conclusions regarding the implementation of TQM in the Saudi university ICs. According to the researcher's point of view, these members of staff were the people most capable of providing information that might enrich the research and reveal the actual facts about staff-related issues related to the application of TQM. Involving staff in a research study to investigate staff-related issues was implemented in

a number of studies in the quality literature including Al-Rayes (2006), Bani Ismail (2012), Elfaituri (2012), Halank (2010), Sadeghian (2010) and Youssef (2006).

The next sections provide a detailed description of the approaches used in collecting data in both phases of the data collection process.

### ***5.8.1. Quantitative Data Collection***

Based on the discussion in Section 5.3.2, it seemed that the questionnaire would be the most appropriate method for collecting data from IC staff; it would remove the possibility of face-face complications and give respondents privacy when providing their responses. In addition, it enabled the researcher to obtain data from a large number of IC staff in order to provide a general understanding concerning the topic under study. The use of questionnaires helped in the research objectives of identifying the reality and practices of TQM applications in Saudi university ICs, which were then explored in more detail in the interviews. The questionnaire was written in English and translated into Arabic, and tested in the pilot study population first. A detailed description of the pilot study is presented in Section 5.6.

Quantitative data were collected between May 14, 2011 and June 10, 2011. The response rate for the questionnaire was 69 per cent or 318 out of 464 IC staff (males and females) in the six pre-1990 universities, namely King Saud University (KSU), King Abdulaziz University (KAU), King Fahd University of Petroleum and Minerals (KFUPM), Um Alqurra University (UAU), King Faisal University (KFU) and Islamic University (IU) (see Table 5.3). An online questionnaire was also created in order to obtain responses

from the university ICs that were not visited by the researcher, owing to distance and time considerations, including IU, KFU and UAU, whilst KSU, KAU and KFUPM were visited by the researcher to undertake the in-person questionnaires and conduct interviews.

The EFQM Excellence Model was selected as the framework for data collection as, compared to other models, it consists of almost all the TQM principles. It was thought that this model would be beneficial to the research as it focuses on results and customer satisfaction, unlike ISO 9000, which focuses on processes only.

It was considered that the use of such a validated questionnaire in this study might give the results more credibility and depth, and might also ensure that all aspects of the quality concept are covered. EFQM excellence has been applied successfully in the LIS sector in different parts of the world (see Section 4.1.9), and it is worthwhile applying it in the Saudi LIS sector.

The EFQM Excellence Model (2000) is divided into nine criteria, five of which are 'the enablers': leadership, policy and strategy, people, partnership and resources, and processes; and four of which are 'the results': users' results, people results, society results, and key performance results. Each one of these criteria has a set of questions that cover the main processes in the organisation. The enablers reflect the organisation's efforts to improve their services, the results of which reflect the organisation's achievement in the quality process.

Various modifications were made by the researcher to make this model fit the research objectives (Appendix A). For instance, various statements were deleted in the society results category that were considered unrelated to the LIS, such as noise, pollution, and

health and safety risks. In Saudi Arabia—and based on the researcher’s experience—the universities are considered responsible for these issues—not the ICs. Accordingly, different terms were changed to fit the LIS sector, such as “organisation” to “IC”, “the stakeholder or customers” to “the user”, and “leaders” to “managers”. The rest of the questionnaire (Appendix A) remains the same without modifications, as it is considered suitable for this research.

### ***5.8.2. Qualitative Data Collection***

Qualitative data were collected in the second phase of the data collection process through interviews. The ICs investigated in this phase, due to time, distance and access considerations, were KSU, KAU and KFUPM. Detailed descriptions about these universities are provided in Section 2.3.

Based on the discussion in Section 5.3.1, the case study research seemed to be the most appropriate design that would fit the objective to achieve a deeper analysis regarding the research problem. Data were collected through the use of semi-structured interviews owing to the method’s flexibility and familiarity to the researcher and the respondents. The semi-structured interview was chosen to collect the qualitative data as it requires direct interaction between the researcher and the interviewees in order to identify causations, unlike a questionnaire (Robson, 2009). Conducting interviews helped to achieve the research objectives to explore in depth staff and managers’ perceptions in regard to the quality practices in their ICs. These managers were selected owing to their strategic views and roles in terms of applying the TQM in their ICs. The interviews (Appendix B) were conducted following the questionnaire in order to clarify

and expand the findings derived from the quantitative phase of the study. The interviewees were asked to provide evidence to support their statements.

The interviewees in this study were the managers and staff in three selected cases: KSU, KAU and KFUPM. The interviews were conducted between July 1, 2011 and August 15, 2011. The researcher conducted 12 individual interviews and three group interviews. Staff with the title "other" refers to staff who are not Librarians or Library Assistants; the decisions of those who refused to participate in the interviews as planned were respected as participation in the research is voluntary.

This research adopted two types of interviews, the individual and group interview.

Individual interviews with the IC managers were conducted to gain more specific and focused information of the research phenomena. In addition, this method is considered the most appropriate path to discuss strategic and sensitive information, compared with a focus group discussion. It gives the researcher chance to explain any vague questions. This type of interview has been widely used in studies into quality reported in the literature including Al-Musleh (2010), Baidoun (2000), Bani Ismail (2012), Twaissi, (2008) and Youssef (2006).

However, staff in three ICs were interviewed in groups as this was the only available way that the researcher could interview so many people. This approach helped the interviewees to share and discuss their own issues in an informal atmosphere, which may have generated more data and thus contributed to better-informed conclusions.

Group interviews have been used in a number of studies, as reported in the quality literature such as Al-Dakheel (2002), Algaman (1999), Alnabhani (2007) and Youssef (2006).

Each interviewee in the group interviews was given an equal opportunity to provide his views regarding the questions being asked. Before conducting group interviews, the interviewees were informed that they could be interviewed individually if they wanted, to avoid sensitive issues; none of the interviewees requested this.

In order to prevent “groupthink” (Brewerton and Millward, 2011), the researcher appointed himself as “a devil’s advocate”, to serve as a critical evaluator and to ask questions to bring up opposing views. Anderson (2009), Brewerton and Millward (2011) and MacDougall and Baum (1997) have suggested that playing the devil’s advocate in group interviews provides alternative perspectives, introduces different scenarios and stimulates thought-provoking questions avoiding groupthink. The researcher did not want to be involved in a debate but tried to engage all the interviewees in a fruitful discussion process. The lack of an external individual as devil’s advocate meant that the researcher had to play this role. This technique led to the avoidance of groupthink and created an appropriate atmosphere where divergent views were encouraged, the expression of ideas was open, and the individuals involved were all able to contribute to the discussion. It can be concluded that the group interview was beneficial to this research as it gave the researcher the opportunity to collect as much data as possible from a large number of interviewees.

### **5.9. Data Analysis**

Data analysis involves interpreting the data gathered in order to reap results that will help in understanding the research problem. In this study two types of data were analysed: quantitative and qualitative. These data were collected through surveys and



interviews, with each type of data requiring its own analytical procedures, as discussed below.

### **5.9.1. Quantitative Data Analysis**

In the quantitative phase, each questionnaire answered was reviewed by the researcher separately to ensure that all questions were answered. Predictive Analysis Software (PASW) was used to analyse data. Statistics is a method of collecting, interpreting and presenting valid conclusions from numerical data, and are divided into two main categories, namely descriptive and inferential statistics. In this research, descriptive statistics were used to present the data collected more clearly and comprehensively by using tables. It also provides techniques including simple measures of dispersion and central tendency, including the mean, standard deviation and median to measure variance and distribution (Babbie, 2013).

A five-point Likert scale was adopted to give the respondents the opportunity to choose the answer that reflected their opinion best. For each statement, the respondents were asked to select a point on the scale from strongly agree to strongly disagree. Each point at the scale was given a numeric value, where strongly agree = 5 and strongly disagree = 1. The Mean is the measure of central tendency of the dataset that consists of a set of variables. The Mean value is given by dividing the sum of the variables by the number of variables in the dataset (Corder and Foreman, 2009). The average of the Likert scale is 3  $((5+4+3+2+1) / 5)$ ; therefore, a mean below 3 shows overall disagreement, while a mean above 3 shows agreement. This approach in identifying the Mean value in a five-

point Likert scale has been applied in a number of studies in the quality literature including Al-Rayes (2006), Al-Sinan (2004), Bani Ismail (2012) and Twaissi (2008).

On the other hand, inferential statistics were used in the study to make inferences from a sample to the larger population from which the sample was taken, aiming to achieve conclusions to extend the understanding beyond the obtained data. This type of statistic has been defined as a procedure to interpret the population's characteristics from information gathered from a sample representing this population (Mendenhall *et al.*, 2013). Thus, the Wilcoxon signed-rank one-tailed test, which is a test for the median difference, was used in this study to establish whether participants' answers were different from the neutral value. In this study, a neutral value on the Likert scale, or 3, was identified as a significant level. If the median of the participants' result was above 3, it meant that the participants agreed with the statement, otherwise the result was disagreement. It is a non-parametric statistical hypothesis test to compare repeated measurements on a single sample to produce a test of the median value of a field (Ott and Longnecker, 2010).

In addition, the Kruskal-Wallis Test was used in this study to discover if there was a statistically significant difference between more than two groups (Corder and Foreman, 2009). It was used in this study to identify the differences between the six ICs in relation to the questions. When a statistically significant difference was found, the Mann-Whitney Test was used to compare differences between two independent groups (Corder and Foreman, 2009).

### 5.9.2. Qualitative Data Analysis

Qualitative data analysis requires “*working with the data, organising them, breaking them into manageable units, coding them, synthesising them and searching for patterns*” (Bogdan and Biklen, 2007: 159). However, there is no one single approach to analysing qualitative data (Patton, 2010; Saunders *et al.*, 2012). Miles and Huberman (1994) recommended that the analysis process starts at an early stage of the research, to give the researcher the opportunity to refine methods of data collection in order to collect better data. Qualitative data analysis requires moving forwards and backwards through the data analysis elements (codes and themes) (Braun and Clarke, 2006). In this study, the interviews were tape-recorded to keep all information available for the entire duration of the study, and were transcribed whilst the information was still fresh in the researcher’s mind. Thematic analysis was used to focus on what had been said more than how it had been said (Riessman, 2004).

In this study, the first step in analysing qualitative data was open coding, where the researcher assigned codes to specific pieces of data (Strauss and Corbin, 1998). Miles and Huberman (1994) defined codes as “*tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study*” (Miles and Huberman, 1994: 56). They also identified three types of codes: descriptive, interpretive and pattern codes. Coding the data can be carried out based on the literature—inductively or data-driven (Patton, 2010). The next step of analysis is categorising, which aims to group similar concepts in a general category. In the third step, themes are created based on shared characteristics (Strauss and Corbin, 1998).

The basic approach for analysing qualitative data involves identifying themes (Bryman, 2012). This process requires building meaning out of the data (Patton, 2010). Thematic analysis is a flexible technique for data analysis to provide a better understanding of the research problem (Braun and Clarke, 2006). Thematic analysis has been defined as “*a method for identifying, analysing, and reporting patterns (themes) within data*” (Braun and Clarke, 2006: 79). Through a constant and comprehensive reading of transcripts, the researcher created the themes that describe and organise some of the phenomena under investigation (Boyatzis, 2009; Bryman, 2012). The thematic code is beneficial if it reflects the “*qualitative richness of the phenomenon*” (Boyatzis, 2009: 31). Some guidelines have been suggested for conducting thematic analysis: the researcher should recognise codes in order to search for patterns; the coding of data should then be carried out through labelling them in a meaningful way, subsequently, the patterns are ready for interpretation (Boyatzis, 2009). In this study, for example, some of the interviewees described training schemes in different terms including, training, staff development, skills development and workshops. These terms all come under the category ‘training’. Moreover, the interviewees described the user in different terms, such as user, reader and client. Teamwork was also discussed with a range of terms, including working in groups, collaborative work, and working together on the same task.

The steps discussed above were followed by the researcher in order to analyse the qualitative data; quotations from participants’ dialogue provided supporting evidence. As the qualitative data were gathered from three cases, KSU, KAU and KFUPM (see Section 5.5 and Section 5.8.2), similar and different themes were identified and

gathered in an attempt to draw the results across the cases, in order to identify similarities and differences between the selected cases.

### 5.10. Translation of Questionnaire and Transcripts

Originally the questionnaire and interview questions were designed in English (see Appendix A and B). English is not widely spoken by the majority of employees in the Saudi HE organisations. Thus, the decision was taken to translate the questionnaire and the interview questions into the participants' first language, Arabic. Saunders *et al.* (2007) and Malhotra and Birks (2003) have suggested two approaches for translating a research tool: back translation and parallel translation. Back translation involves the translation of the source questionnaire to target questionnaire to source questionnaire; this is sometimes repeated several times in order to remove any errors or misinterpretations, but this can be cumbersome and time consuming. In parallel translation, the source questionnaire is translated to the target questionnaire by two or more independent translators, which creates the final version and can lead to effective wording of the targeted questionnaire. Parallel translation was adopted in this research: two professors of English Language in one of the Saudi universities were asked to review the English and Arabic versions of the questionnaires before conducting the research, and no concerns were reported. In addition, pre-testing the questionnaire and the interview questions in the pilot study (section 5.6) showed that the translation was accurate.

The interview transcriptions were translated by the researcher during the period of data collection. The same professors who translated the questionnaire reviewed these

transcriptions, and both agreed that the translation was accurate and no conceptual or practical issues were found.

### **5.11. Validity and Reliability**

From a pragmatic view of research, this research implemented mixed-methods to investigate the research problem. The following sections provide a discussion of the approaches used to ensure the validity and reliability of this research tool.

#### **5.11.1 Validity**

In mixed-methods research, a debate on what criteria to use in evaluating the research reveals different concepts (Tashakkori and Teddlie, 2008). Onwuegbuzie and Johnson (2006) believed that the research quality in mixed-methods research is complicated, due to the fact that this approach combines two different approaches, each of which has strengths and weaknesses. They suggested using “legitimation” as an alternative term in order to evaluate mixed-methods research. Bryman (2012) suggested that the research nature and purpose should be used as a basis for evaluating mixed-methods research, instead of following a specific approach to evaluate it. In general, mixed-methods research offers a good design, where qualitative data can be used to explain or interpret quantitative data (Miles and Huberman, 1994). Combining more than one method in collecting and analysing data could ensure validity, where the weaknesses of the first method are overcome by the strengths of the other (Brewer and Hunter, 2006).

Triangulation gives the researcher the ability to validate the results through comparing the outcomes of different methods (Onwuegbuzie and Leech, 2009).

To ensure that this research fulfilled validity requirements, different procedures were followed. Collecting two sets of data in two separate phases enabled the researcher to understand the situation as it was in the actual setting. Several questions were posed in the quantitative phase, and were re-asked and re-explained in more detail in the qualitative phase. This procedure ensured that the findings of the questionnaire were validated by the interview results. The questionnaire was tested in the pilot study in two stages: with the researcher's colleagues in the Information School, University of Sheffield and with a sample chosen from the targeted population in the pilot study (see Section 5.6). The results in each stage were reasonable, and several valuable comments and suggestions were received from the respondents and the research supervisors.

Moreover, external validity was raised by targeting the entire population as a research sample (after excluding the research sample who participated in the pilot study, as they had previous experience in answering the questionnaire or questions in the interviews and their answers might have been influenced by their past experiences). The research sample was large and was therefore unaffected by the exclusion of those participants. The response rate was 69 per cent in the quantitative phase and 90 per cent in the qualitative phase. These instruments proved their ability to obtain a sufficient amount of rich data from the research sample in the pilot study. The questionnaire used in this research is based on an existing questionnaire developed by the European Foundation for Quality Management (EFQM, 2000), which increases its validity. In addition, the existing questionnaire had been used in several mixed-methods research studies in

TQM area from various sectors, such as Al-Musleh (2010), Al-Rayes (2006) and Soltani (2004), and in LIS such as Barrionuevo and Perez (2001), Diaz *et al.* (2005), Herget and Hierl (2007), Jones *et al.* (2000) and Lozano and Pacios (1997).

The researcher visited KSU, KAU and KFUPM and administered the distribution and collection of the questionnaires, which enabled him to explain and clarify any misunderstandings or misconceptions about the questions. A personally administered questionnaire gave the researcher the opportunity to check the questionnaires after collecting them from the participants to ensure that they were fully answered. Moreover, the self-administered survey encouraged undecided participants to take part in this research and helped the respondents to clarify unclear questions (McNabb, 2013).

In the qualitative phase, the validity of the semi-structured interview can be understood as the extent to which "*the researcher has gained full access to the knowledge and meanings of informants*" Easterby-Smith *et al.* (1991: 41). Creswell and Plano Clark (2011) pointed out that the validity of semi-structured interviews can be achieved by allowing the meanings and ideas to be probed and developed through discussion, to ensure that all important aspects of the investigated topic are covered. Piloting the interview questions improved the validity of the interviews, as the questions were asked and tested several times in the pilot study before commencing the data collection process. Saunders *et al.* (2007) added that the validity of semi-structured interviews is very high; the flexible and responsive interactions enable the topic to be probed and covered from a variety of angles and for questions to be made clear to respondents. In this study, multiple respondents in each IC were used to reduce any bias of individual



respondents and to increase the validity of the conclusions. This approach has been applied in a number of studies in the field of quality management research, such as Al-Musleh, (2010), Gray (2004), Halank (2010), Magd and Curry (2003), Sadeghian (2010), Salaheldin (2003) and Youssef (2006). Table 5.4 in section 5.5.2 (Qualitative research sample) shows the number of the interviewees in each IC.

### **5.11.2. Reliability**

Reliability is a process undertaken to ensure that the research instrument is error-free (Sekaran and Bougie, 2013). Several steps were followed for this purpose. The researcher discussed with the respondents their views and perceptions of the questionnaire. In social science research, Cronbach's alpha ( $\alpha$ ) is the most commonly used measurement tool of internal consistency when using multiple Likert questions in a questionnaire (Sun *et al.*, 2007). Nunnally and Bernstein (2010) recommended that Cronbach's alpha should fall within a range of 0.70 to 1.00, which indicates that the instrument has a high level of reliability. Cronbach's alpha ( $\alpha$ ) was used, and Table 5.5 shows that each category of the questionnaire has a high level of internal consistency.

Table 5.5: Cronbach's alpha ( $\alpha$ )

Elements	<i>N</i>	Cronbach's alpha Coefficient ( $\alpha$ )
<b>Leadership</b>	318	0.91
<b>Policy and Strategy</b>	318	0.94
<b>People</b>	318	0.92
<b>Partnership and Resources</b>	318	0.96
<b>Process</b>	318	0.96
<b>User Results</b>	318	0.94
<b>People Results</b>	318	0.86
<b>Society Results</b>	318	0.90
<b>Key Performance Results</b>	318	0.94

During the preparation of the interviews, interviewees were provided with a brief overview of the research topic and the subjects that might be discussed during the interviews, in order to enable the interviewees to prepare themselves with appropriate information and to assemble supporting documents. Connaway and Powell (2010) emphasised the relationship between reliability and bias. The researcher tried to avoid biasing the outcome as a result of comments or behaviour that might affect the interviewees' reactions. The interviewees' opinions and comments were not edited or judged, and notes and memos were taken during the interviews to capture all the important actions or statements. The researcher tried to build trust with the interviewees by ensuring the confidentiality of their identities and information (Connaway and Powell, 2010; Johnson, 2010). The transcriptions were checked several times to ensure they were correct and clear; codes were compared with data by writing memos about them; and the researcher asked one PhD student in the Management School and two PhD students in the Information School, University of Sheffield, to check

the data and codes in the Arabic and English versions of transcriptions. The results were very similar to the codes developed by the researcher.

### Summary

This chapter on methodology has discussed the research philosophy, the design of the research, the approach taken, and the methods used to collect data in the study. In the discussion on research philosophy, the concepts of epistemology and ontology were introduced as the philosophical understanding of the development of knowledge is crucial to a consideration of the research design and the way in which the research is conducted. The dominant paradigms of positivism and interpretivism were discussed as were the research methods that tend to be associated with them, namely quantitative methods and qualitative methods respectively.

It was explained that this study used both quantitative and qualitative methods, with justifications for this choice presented. The targeted population in this research was identified and the criteria for choosing this sample were presented. The specific methods of data collection used in this study were discussed. Data analysis approaches were also discussed. Information was given on the piloting of the research tools and the benefits of doing this. Ethical issues were highlighted in order to place emphasis on the participants' rights before, during and after conducting this research. The quality of research was discussed, including validity and reliability.

Chapter Six provides the results of the first stage of this study - the quantitative data analysis.

## CHAPTER SIX: QUANTITATIVE DATA ANALYSIS

### Introduction

This chapter presents the analysis of the quantitative data obtained from the participants by questionnaires in six university ICs: KSU, KAU, KFUPM, IU, KFU and UAU. In the first stage of the data collecting process, quantitative data were collected to discover the IC staff's perception of the TQM principles in their ICs. This chapter answers the first research question:

*Q1. To what extent is the quality concept implemented in Saudi university ICs?*

As stated in the Research Methodology Chapter, quantitative data were used to provide an overview about the quality level of the service in the ICs being studied to discover the extent to which the quality concept was being applied in them. This chapter is divided into three main sections: the first section provides the participants' demographic details in order to provide some information on the characteristics of the participants in the sample (Section 6.1); the second section explores the quality practices in the ICs based on the criteria of EFQM Excellence Model by using three statistical tests, namely Wilcoxon signed-rank one-tailed test, Kruskal-Wallis Test and the Mann-Whitney Test (Section 6.2); and the final section summarises the results in order to reach valid conclusions that can assist in understanding the actual level of the application of TQM in the Saudi ICs. In these sections, tables are used to provide a clear description of the results obtained.

## 6.1. Characteristics of the Research Sample

The purpose of this section is to describe the participants' demographic information in terms of (a) university (b) job title (c) age (d) gender (e) years of experience (f) highest level of education and (g) specialisation. These details are presented in Tables in the following sections by using frequencies.

### 6.1.1. Participants by University

Table 6.1 shows the response rates of the respondents from each university. The highest response rate, 83 per cent, was from staff in the IC at UAU. Distance had no impact on the response rate as can be seen from the figures for UAU, KFUPM and IU, where the researcher used an online questionnaire to obtain the respondents' answers in these ICs. KSU had the lowest response rate compared to other universities due to the high number of targeted respondents in this IC and the difficulties in visiting nineteen sites, considering the time and effort involved. The researcher tried to deploy online questionnaires at other sites in this university, but staff in these sites did not respond.

**Table 6.1:** Response rate by university

IC	Staff number			Respondents	%
	Professionals	Others	Total		
UAU	30	19	49	41	<b>83.6</b>
KAU	43	30	73	58	<b>79.5</b>
KFUPM	40	12	52	39	<b>75</b>
KFU	23	25	48	36	<b>73.5</b>
IU	28	20	48	30	<b>62.5</b>
KSU	105	88	193	114	<b>59.1</b>

### 6.1.2. Participants by Job Title

As can be seen in Table 6.2, 47 per cent of the respondents were librarians – the highest single category. Staff members working under the title “Other” formed the second largest group, with 26 per cent of the participants. Staff with title “Other” are not LIS professionals and responsible for clerical work only. The number of assistant librarian positions was relatively low compared with other titles, as this job title is not widely used in Saudi Arabia. The highest number of librarians who responded were from KSU (62), reflecting the high number of staff working in its nineteen sites. KSU had the highest number of staff working under the title ‘other’; these employees are usually responsible for clerical work. IU had the lowest number of Librarians, probably due to the low number of users. It can be seen that the number of respondents working as Department Heads appears similar across the ICs.

**Table 6.2:** Respondents by job title

<b>Job title</b>	<b>KSU</b>	<b>KAU</b>	<b>UAU</b>	<b>KFUPM</b>	<b>KFU</b>	<b>IU</b>	<b>Total</b>	<b>%</b>
<b>Department Head</b>	4	4	5	4	4	5	26	<b>8</b>
<b>Librarian</b>	62	27	16	20	14	10	149	<b>47</b>
<b>Assistant Librarian</b>	10	12	10	7	12	9	60	<b>19</b>
<b>Other</b>	38	15	10	8	6	6	83	<b>26</b>
<b>Total</b>	114	58	41	39	36	30	318	<b>100</b>

### 6.1.3. Participants by Age

As can be seen in Table 6.3, the vast majority of participants were aged between 25 and 44 years old, while other categories are in the minority. This means that current staff members have on average at least 15 years to work in their current ICs before retiring, according to the Saudi Civil Service System. The number of staff aged under 25 years in each university is low compared to other age groups, while the number of staff aged between 35 and 44 years old is the highest in all ICs, except KFUPM. KSU had the highest number of staff aged between 25 and 44 years compared to other ICs. In addition, KSU, KAU and KFUPM seem to have a high number of staff aged 45 years old and more.

**Table 6.3:** Respondents by age

IC	KSU	KAU	UAU	KFUPM	KFU	IU	Total	%
<b>Under 25</b>	6	6	5	3	3	2	<b>25</b>	<b>8</b>
<b>25-34</b>	47	18	14	14	13	7	<b>113</b>	<b>35</b>
<b>35-44</b>	48	19	16	8	15	15	<b>121</b>	<b>38</b>
<b>45 or more</b>	13	15	6	14	5	6	<b>59</b>	<b>19</b>
<b>Total</b>	114	58	41	39	36	30	<b>318</b>	<b>100</b>

### 6.1.4. Participants by Gender

The distribution of participants based on their gender is shown in Table 6.4. The vast majority of participants were men, totalling 80 per cent of the respondents. As the researcher is male, the social considerations in Saudi Arabia that prevent females from interacting directly with males impacted on the participation rate of women in the study. The responses from women were obtained by asking them to participate via

online questionnaires only. The lowest number of responses came from the KFUPM female site, probably due to the low number of female staff on that site and the difficulties that the researcher faced in accessing it. The number of female participants in KSU was higher than the number in other ICs, due to the high number of female staff in different sites of KSU.

**Table 6.4:** Respondents by gender

IC	KSU	KAU	UAU	KFUPM	KFU	IU	Total	%
<b>Male</b>	89	46	29	37	28	24	<b>253</b>	<b>80</b>
<b>Female</b>	25	12	12	2	8	6	<b>65</b>	<b>20</b>
<b>Total</b>	114	58	41	39	36	30	<b>318</b>	<b>100</b>

**6.1.5. Participants by Experience**

Table 6.5 indicates that the ICs under study had staff with different levels of experience. It is noticeable that all the participants from KSU had less than 31 years’ experience, in contrast to other universities that had different levels of experienced staff. In general, there were few staff members with more than 30 years experience. The low number of long experienced staff could be caused by the transfer of staff to other organisations or by the Civil Service System that prevents staff from working after reaching 60 years of age. KSU had the highest proportion of staff with ten years’ or less experience.



**Table 6.5:** Respondents by experience

IC	KSU	KAU	UAU	KFUPM	KFU	IU	Total	%
<b>0-10</b>	70	18	6	12	4	7	<b>117</b>	<b>37</b>
<b>11-20</b>	34	20	13	13	9	4	<b>93</b>	<b>29</b>
<b>21-30</b>	10	13	18	8	18	15	<b>82</b>	<b>26</b>
<b>31 or more</b>	0	7	4	6	5	4	<b>26</b>	<b>8</b>
<b>Total</b>	114	58	41	39	36	30	<b>318</b>	<b>100</b>

**6.1.6. Participants by Highest Degree**

Table 6.6 shows the participants’ level of education, indicating that the majority of the respondents, except in IU, were bachelor’s degree holders. Only a few of the staff members in KSU, KAU and KFUPM were educated to Master’s level, and none in IU, UAU and KFU. In Saudi ICs, PhD holders work as Library Deans or Associate Deans, and these were excluded from the quantitative phase of the study. The vast majority of the participants from KSU held a bachelor degree, creating a gap between it and other universities in this respect. Participants with secondary school certificates as their highest level of education, found in all ICs, are those responsible for clerical work. In general, more people had bachelor degrees, rather than other qualifications, except for those in IU, where the majority were Diploma holders.

**Table 6.6:** Respondents by level of education

IC	KSU	KAU	UAU	KFUPM	KFU	IU	Total	%
<b>Secondary school</b>	9	6	2	6	1	2	<b>26</b>	<b>8</b>
<b>Diploma</b>	19	21	12	15	11	15	<b>93</b>	<b>29</b>
<b>Bachelor</b>	80	28	27	17	24	13	<b>189</b>	<b>60</b>
<b>Master</b>	6	3	0	1	0	0	<b>10</b>	<b>3</b>
<b>Total</b>	114	58	41	39	36	30	<b>318</b>	<b>100</b>

**6.1.7. Participants by Specialisation**

Table 6.7 shows the participants' academic specialisations. Notably, 47 per cent of the participants were LIS specialists, whether diplomas, bachelor's or master's. KSU had the highest number of LIS specialists compared with the other universities, almost certainly due to the high number of sites it covered. The number of LIS specialised staff in other universities was between 13 and 22. A good number of staff specialised in the Arts. In addition, the number of secondary school certificate holders was relatively high: these are people who are usually responsible for clerical work and excluded from practicing LIS tasks. Hiring secondary school holders created an unbalanced staff distribution, where the number of other specialisation holders was scarce. It is clear that the participants from KSU were specialised in a wide range of fields, whilst the rest of the universities suffered from a shortage in different specialisations, such as Geography, English and History. Besides these specialisations, IU suffered from an absence of specialists in Physics and Business and KFUPM had a shortage of specialists in Education and Economics.

Table 6.7: Respondents by specialisation

Specialisation	KSU	KAU	UAU	KFUPM	KFU	IU	Frequency	%
Library science	64	22	19	13	18	13	149	47
Arts	3	8	3	7	4	5	30	9
Secondary school	9	6	2	6	1	2	26	9
Management	4	4	5	2	4	2	21	6
Education	7	4	2	0	2	4	19	6
Arabic	6	6	2	1	1	1	17	5
Finance	4	2	3	3	1	1	14	4
Business	3	2	1	2	2	0	10	3
Physics	1	2	1	3	1	0	8	3
Computer Science	2	1	1	2	1	1	8	3
Economics	1	1	2	0	1	1	6	2
English	4	0	0	0	0	0	4	1
History	4	0	0	0	0	0	4	1
Geography	2	0	0	0	0	0	2	1
Total	114	58	41	39	36	30	318	100

## 6.2. Questionnaire Categories

The following sub-sections reflect the responses given by the participants on the main quality management criteria in the EFQM Excellence Model (Appendix A), namely leadership; policy and strategy; people; partnership and resources; processes; user results; people results; society results; and key performance results. These categories were discussed in Section 3.4. The following sections present the results from the statistical tests that were conducted, namely Wilcoxon signed-rank one-tailed test, The Kruskal-Wallis test and the Mann-Whitney test (see Section 5.9.1). Mean and standard deviation were used in order to provide more description and discussion of the data.

6.2.1. Leadership

Table 6.8: Leadership (n = 318)

No	Statement	Mean	S.D.	P
1	Managers develop the mission, vision, values and ethics and role models for a culture of excellence	2.91	1.31	.138
2	Managers demonstrate and communicate a clear understanding of improving services	3.41	1.20	.000
3	Managers encourage employee empowerment and autonomy	3.13	1.33	.008
4	Managers review and improve the effectiveness of their leadership	2.92	1.26	.090
5	Managers use commitment to improvement as one of the criteria for selecting candidates for promotion and reward	3.04	1.26	.634
6	Managers interact with users and representatives of society	3.19	1.20	.268
7	Satisfaction levels of current internal and external users ensures the success of the library	3.42	1.39	.000
8	Managers stimulate continuous improvement of services and processes	3.40	1.16	.000
9	Managers continuously acquire and update knowledge that is valuable for the library	2.92	1.37	.138
10	Managers recognise the performance of individuals working in the library	3.02	1.34	.899

Table 6.8 shows participants’ responses to statements in the leadership category, including mean, standard deviation and probability value (*P*). The Wilcoxon Signed Ranks test showed that statements 1, 4, 5, 6, 9 and 10 had no statistically significant difference between the sample and neutral value on the Likert scale. However, statistically significant differences were found regarding the following statements:

- Managers demonstrate and communicate a clear understanding of improving services, where the mean value of 3.41, standard deviation was 1.20, with a statistically significant difference (*P* = .000).

- Managers encourage staff empowerment, where the mean value of 3.13, a standard deviation was 1.33, with a statistically significant difference ( $P = .008$ ).
- The satisfaction of the current internal and external users ensures the success of the library, where the mean value of 3.42 and a standard deviation was 1.39 with a statistically significant difference ( $P = .000$ ).
- Managers stimulate continuous improvement of services and processes, where the mean value of 3.40, a standard deviation was 1.16, with a statistically significant difference ( $P = .000$ ).

The Kruskal-Wallis test was used to discover the differences between the respondents based on ICs (see Section 5.8.1) and revealed that there were statistically significant differences between the respondents in the six universities regarding statements 2, 3, 4, 5 and 10. The Mann-Whitney test was used to compare differences between two independent groups (see Section 5.8.1.). The Mann-Whitney test showed a statistically significant difference between the participants from KSU and those from other ICs regarding the following aspects of leadership:

- Managers demonstrate and communicate a clear understanding of improving services ( $P = .000$ ).
- Managers encourage employee empowerment and autonomy ( $P = .003$ ).
- Managers review and improve the effectiveness of their leadership ( $P = .002$ ).
- Managers use commitment to improvement as one of the criteria for selecting candidates for promotion and reward ( $P = .000$ ).

- Managers recognise the performance of individuals working in the library ( $P = .000$ ).

To establish how much variation existed amongst the respondents according to job title, age, gender, experience, highest degree and specialisation, etc., Nonparametric, tests, namely the Kruskal-Wallis and the Mann-Whitney tests, were employed to elucidate similarities or dissimilarities amongst the respondents in each IC.

For the job title, subjects were divided into four groups, as shown in Table 6.2

(Department Heads, Librarians, Assistant Librarians and Other). The Kruskal-Wallis test was used to discover the differences between the respondents based on job title (see Section 5.8.1) and revealed that there were statistically significant differences between the respondents regarding statements 6, 7 and 9. The Mann-Whitney test was used to compare differences between two independent groups and showed statistically significant differences between the Heads of Departments, who had the lowest mean score, and other levels regarding the following statements:

- Managers interact with users, and representatives of society ( $P = .002$ ).
- The satisfaction of current internal and external users ensure the success of the library ( $P = .004$ ).
- Managers continuously acquire and update knowledge that is valuable for the library ( $P = .049$ ).

For age, the subjects were divided into four groups, as illustrated in Table 6.3 (1= Under 25, 2= 25- 34, 3= 35-44 and 4= 45 or more). The Mann-Whitney test revealed that a statistically significant difference was found between the mean average of responses of

staff aged under 25 years old and those from other age groups regarding the following statements:

- Managers develop the mission, vision, values and ethics and role models for a culture of excellence ( $P = .001$ ).
- Managers encourage employee empowerment and autonomy ( $P = .015$ ).
- Managers use commitment to improvement as one of the criteria for selecting candidates for promotion and reward ( $P = .000$ ).
- Managers recognise the performance of individuals working in the library ( $P = .000$ ).

For experience, the subjects were divided into four groups as shown in Table 6.5 (1=0-10, 2= 11-20, 3= 21-30 and 4= 31 or more). The Mann-Whitney test revealed that a statistically significant difference was found between the mean averages of respondents with 10 years of experience or less and those from other experience groups regarding the following statements:

- Managers develop the mission, vision, values and ethics and role models for a culture of excellence ( $P = .023$ ).
  - Managers demonstrate and communicate a clear understanding of improving services ( $P = .000$ ).
  - Managers encourage employee empowerment and autonomy ( $P = .000$ ).
  - Managers review and improve the effectiveness of their leadership ( $P = .035$ ).
- Managers use commitment to improvement as one of the criteria for selecting candidates for promotion and reward ( $P = .000$ ).

- Managers recognise the performance of individuals working in the library ( $P = .000$ ).

Table 6.6 shows that there were four different degrees, namely secondary school, diploma, bachelor's and master's. There were no statistically significant differences between these participants' degrees regarding the leadership category. For gender, there was no significant difference between men and women regarding statements in the leadership category. Finally, specialisations were divided into 14 groups, as can be seen in Table 6.7; there was no statistical significant difference between these specialisations.

To summarise, the participants from KSU felt that leadership skills were lacking in their managers. The heads of departments evaluated their managers' behaviours lower than other participants, which can be interpreted as a result of conflicts between managers and the heads of departments in several aspects of leadership. Moreover, staff aged under 25 evaluated several aspects of leaderships lower than did participants from other age groups, indicating their belief that these aspects discussed above did not apply in their ICs. Finally, participants with 10 years or less of experience assessed some of the statements in the leadership category lower than other participants, thus suggesting that they were not satisfied with some aspects of leadership in their ICs.



6.2.2. Policy and Strategy

Table 6.9: Policy and strategy (n = 318)

No	Statement	Mean	S.D.	P
11	Policy and strategy are based on the present and future needs of users	3.28	1.32	.001
12	Managers formulate strategies and plans based on information relating to the performance of competitors	3.08	1.20	.409
13	Managers ensure understanding of the library strategy and plans by its people in terms relevant to their activities	2.99	1.11	.783
14	Managers communicate strategies and plans to all staff	2.97	1.27	.643
15	Effective management is based on information about users, employees, and society	3.31	1.34	.000
16	Users' needs are taken into account when establishing objectives.	3.05	1.30	.888
17	Objectives and strategies are based on information from performance measurement	3.13	1.25	.148
18	Library self-assessment processes take place on a regular basis	3.13	1.31	.088
19	Information systems are in place to capture information about external users' needs	3.13	1.14	.109
20	The library has formal strategic plans	2.92	1.24	.180
21	Policies to improve services are translated into a set of specific and measurable objectives	3.10	1.26	.256

In Table 6.9, the Wilcoxon signed-rank one-tailed test revealed statistically significant differences between the participants in the following statements:

- Policy and strategy are based on the present and future needs of users, where the mean value was 3.28, a standard deviation value was 1.32 and ( $P = .001$ ).
- Effective management is based on information about users, employees, and society, where the mean value was 3.31, standard deviation 1.34 and ( $P = .000$ ).

The Mann-Whitney test showed a statistically significant difference between the mean average of the participants' answers from KFU and KSU and those from other ICs regarding whether library self-assessment processes take place on a regular basis ( $P = .005$ ). In addition, statistically significant differences were found between the participants from KSU and those from other ICs regarding several aspects of policy and strategy, including:

- Managers formulate strategies and plans based on information relating to the performance of competitors ( $P = .000$ ).
- Managers ensure understanding of the library strategy and plans by its people in terms relevant to their activities ( $P = .003$ ).
- Managers communicate strategies and plans to all staff ( $P = .002$ ).
- Objectives and strategy are based on information from performance measurement ( $P = .032$ ).
- Policies to improve services are translated into a set of specific and measurable objectives ( $P = .001$ ).

Staff aged under 25 were significantly different from other age groups regarding the following statements:

- Effective management is based on information about users, employees, and society ( $P = .007$ ).
- Objectives and strategy are based on information from performance measurement ( $P = .007$ ).
- The library had formal strategic plans ( $P = .016$ ).

- Policies to improve services were translated into a set of specific and measurable objectives ( $P = .023$ ).

In terms of gender, it was found that there was a statistically significant difference between male and female participants regarding two statements, as follows:

- Effective management was based on information about users, employees, and society ( $P = .013$ ).
- Library self-assessment processes take place on a regular basis ( $P = .019$ ).

Finally, there was no statistically significant difference between participants' job titles, experience, highest degree and specialisation regarding the partnership and resources categories.

To summarise, according to the participants from KSU and KFU, a self-assessment process was not conducted on a regular basis. In addition, the participants highlighted several aspects of policy and strategy category that were not met in KSU, indicating the absence of an effective framework to develop policies and strategies. Staff aged under 25 scored some aspects of this category lower than other age groups, thus reflecting that these participants were not satisfied with policy and strategy aspects in the ICs. Finally, it was found that female participants perceived policy and strategy aspects lower than male participants.

## 6.2.3. People

Table 6.10: People ( $n = 318$ )

No	Statement	Mean	S.D.	P
22	People resources are planned	2.73	1.14	.000
23	People resources are managed	2.81	1.18	.001
24	Formal processes are used (such as attitude surveys or employee briefing) to find out employee opinions	2.58	1.29	.000
25	Emphasis is placed on recruiting highly skilled employees	2.75	1.28	.000
26	Extensive quality training programmes are provided for employees	2.11	1.13	.000
27	Employees are allowed to decide how the work is done	2.47	1.22	.000
28	Employee opinions are taken into account when defining organisational objectives	2.44	1.26	.000
29	Employee participation is encouraged	2.56	1.26	.000
30	Teamwork is a common practice	2.30	1.09	.000
31	Formal communication procedures are established with staff and users	3.12	1.13	.156
32	Employees have access to information about quality results in the library	2.82	1.19	.006
33	Internal communication is totally open and transparent	3.02	1.31	.851
34	People are rewarded, recognised and cared for	2.70	1.32	.000

Table 6.10 shows that the vast majority of statements in the people category were disagreed with by participants, with statistically significant differences found in the following statements:

- The people resources are planned, where the mean value was 2.73 a standard deviation was 1.14 and ( $P = .000$ ).
- People resources are managed, where the mean value was 2.81, a standard deviation was 1.18 and ( $P = .001$ ).

- Formal processes are used (such as attitude surveys or employee briefing) to establish employee opinions, where the mean value was 2.58, a standard deviation was 1.29 and ( $P = .000$ ).
- Emphasis is placed on recruiting highly skilled employees, where the mean value was 2.75, a standard deviation was 1.28 and ( $P = .000$ ).
- Extensive quality training programmes are provided for employees, where the mean value was 2.11, a standard deviation was 1.13 and ( $P = .000$ ).
- Employees are allowed to decide how the work is done, where the mean value was 2.47, standard deviation was 1.22 and ( $P = .000$ ).
- Employees' opinions are taken into account when defining organisational objectives, where the mean value was 2.44, standard deviation was 1.28 and ( $P = .000$ ).
- Staff participation is encouraged, where the mean value was 2.56, standard deviation was 1.26 and ( $P = .000$ ).
- Teamwork is a common practice, where the mean value was 2.30, standard deviation was 1.09 and ( $P = .000$ ).
- Employees have access to information about quality results in the library, where the mean value was 2.82, standard deviation was 1.19 and ( $P = .006$ ).
- People are rewarded, recognised and cared for, where the mean value was 2.70, standard deviation was 1.32 and ( $P = .000$ ).

The Mann-Whitney test showed a statistical significant difference ( $P = .002$ ) between the participants from KFU and those from other ICs regarding the people resources management (statement 23). In addition, a statistical significant difference was found between the participants from KSU and those from other ICs regarding several statements including:

- People resources are planned ( $P = .000$ ).
- Formal processes are used (such as attitude surveys or employee briefing) to find out employee opinions ( $P = .000$ ).
- Emphasis is placed on recruiting highly skilled employees ( $P = .000$ ).
- Extensive quality training is provided to staff ( $P = .001$ ).
- Employees are allowed to decide how the work is done ( $P = .000$ ).
- Staff participation is encouraged ( $P = .001$ ).
- Formal communication procedures are established with staff and users ( $P = .000$ ).
- Staff are allowed to have access to information about quality results ( $P = .000$ ).
- Internal communication is totally open and transparent ( $P = .009$ ).
- People are rewarded, recognised and cared for ( $P = .000$ ).

The Mann-Whitney test showed that a statistical significant difference was found between the mean average of responses of the staff aged under 25 years old and other age groups regarding the following statements:

- People resources are planned ( $P = .003$ ).
- Formal processes are used (such as attitude surveys or employee briefing) to find out employee opinions ( $P = .004$ ).

- Extensive quality training programmes are provided for employees ( $P = .007$ ).
- Employee opinions are taken into account when defining organisational objectives ( $P = .015$ ).
- Teamwork is a common practice ( $P = .037$ ).
- Employees have access to information about quality results in the library ( $P = .004$ ).
- People are rewarded, recognised and cared for ( $P = .038$ ).

In terms of experience, the Mann-Whitney test revealed a statistically significant difference between the mean values between the staff with 10 years experience or less and those from other groups of different levels of experience, regarding the following statements:

- People resources are planned ( $P = .021$ ).
- People resources are managed ( $P = .002$ ).
- Formal processes are used (such as attitude surveys or employee briefing) to find out employee opinions ( $P = .013$ ).
- Emphasis is placed on recruiting highly skilled employees ( $P = .011$ ).
- Extensive quality training programmes are provided for employees ( $P = .000$ ).
- Employees are allowed to decide how the work is done ( $P = .002$ ).
- Employee opinions are taken into account when defining organisational objectives ( $P = .005$ ).
- Formal communication procedures are established with staff and users ( $P = .000$ ).

- Employees have access to information about quality results in the library ( $P = .000$ ).
- Internal communication is totally open and transparent ( $P = .000$ ).
- People are rewarded, recognised and cared for ( $P = .000$ ).

Finally, there was no statistically significant difference between participants' gender, job titles, highest degree and specialisation regarding the statements given in the people category.

To summarise, the participants felt that most of the statements in people category were not met by the ICs, reflecting the absence of an effective framework to manage staff-related issues. KSU was the most affected IC in meeting the statements in this category, probably due to the absence of having a people-oriented framework, according to the participants from this IC. In addition, staff aged under 25, and those with 10 years' or less experience, were the groups most aware of what they clearly saw as the failure of those managing staff-related issues.



## 6.2.4. Partnership and Resources

Table 6.11: Partnership and resources ( $n = 318$ )

No	Statement	Mean	S.D.	P
35	External partnerships are managed	2.90	1.15	.051
36	The library has a high capacity for external cooperation	3.01	1.07	.861
37	Financial resources are managed	2.94	1.24	.175
38	Information technology is managed	3.02	1.19	.766
39	The library manages risks	2.90	1.15	.053
40	Efforts are made to know what the workforce needs in terms of information and resources	2.86	1.24	.028
41	The library ensures everyone has appropriate information for jobs and that relevant indicators are displayed	2.89	1.15	.068
42	The library assures accessibility, security and accuracy of information and complies with relevant regulations	3.07	1.16	.563
43	The library identifies and evaluates relevant new and emerging technologies and implements these technologies	3.11	1.13	.159
44	The library manages selection and measures suppliers' performance effectively	2.97	1.09	.399

Table 6.11 shows that Statement 40 was the only statement that has a statistically significant difference between the sample and neutral value in Likert scale. The Wilcoxon signed-rank one-tailed test indicated that they disagreed with some statements in this category, namely (35, 37, 39, 40, 41, and 44). The Mann-Whitney test showed statistically significant differences between the mean average of responses from KSU and those from other ICs regarding the following statements:

- The external partnerships are managed ( $P = .001$ ).
- Financial resources are managed ( $P = .000$ ).
- Information technology is managed ( $P = .000$ ).

- The library manages risks ( $P = .002$ ).
- Efforts are made to identify the workforce needs in term of information and resources ( $P = .000$ ).
- The library ensures everyone has appropriate information for jobs and that relevant indicators are displayed ( $P = .000$ ).
- The library assures accessibility, security and accuracy of information and complies with relevant regulations ( $P = .000$ ).
- The library identifies and evaluates relevant new and emerging technologies and implements these technologies ( $P = .000$ ).
- The library manages selection and measures suppliers' performance effectively ( $P = .000$ ).

For job title, there was a statistically significant difference between Department Heads and those from other job titles regarding the following statements:

- External partnerships are managed ( $P = .006$ )
- The library has a high capacity for external cooperation ( $P = .000$ )
- The library manages risks ( $P = .024$ ).
- The library identifies and evaluates relevant new and emerging technologies and implements these technologies ( $P = .014$ ).
- The library manages selection and measures suppliers' performance effectively ( $P = .008$ ).

In terms of age, a statistically significant difference was identified between the mean averages of responses of staff aged below 25 years and those from other age groups regarding the following statements:

- External partnerships are managed ( $P = .001$ ).
- Efforts are made to know what the workforce needs in terms of information and resources ( $P = .001$ ).
- The library assures accessibility, security and accuracy of information and complies with relevant regulations ( $P = .045$ ).

With regard to experience, gender, highest degree and specialisation, there were no statistically significant differences between the participants' gender and specialisations regarding the statements related to partnership and resources.

To summarise, the participants felt that most of the statements in the partnership and resources category were not met in KSU, suggesting the absence of a framework to manage partnership and resources. Heads of Departments perceived the aspects of partnership and resources differently from other staff members, which might be explained by the fact that their role in management activities might be different from other staff. Finally, staff aged below 25 years disagreed with some of the partnership and resources statements in their ICs.

## 6.2.5. Process

Table 6.12: Process ( $n = 318$ )

No	Statement	Mean	S.D.	P
45	Processes are systematically designed and managed	2.98	1.11	.656
46	The library seeks feedback from customers to improve its products and services	2.90	1.21	.122
47	Processes are improved using innovation in order to fully satisfy users	2.97	1.12	.418
48	Relationships with users are managed and enhanced	3.34	1.12	.000
49	Work methods and organisational processes are explicitly defined	3.08	1.15	.355
50	There is comprehensive documentation about work methods and organisational processes	3.03	1.13	.873
51	Quality manuals and organisational processes are periodically revised	2.91	1.14	.077
52	Systems of indicators are in place to review changes in processes	2.95	1.13	.322
53	Work processes exist that promote efficient behaviour patterns throughout the library	2.97	1.10	.545
54	Services are designed based on user needs and expectations	3.08	1.11	.334
55	Services provided to the users are designed with high quality	3.54	1.21	.000
56	Standardised systems are in place to deal with users' complaints	2.85	1.22	.012

In Table 6.12, the Wilcoxon signed-rank one-tailed test showed statistically significant differences in the following statements:

- The relationships with users are managed and enhanced, where the mean value was 3.34, standard deviation was 1.12 and ( $P = .000$ ).
- Services provided to the users are designed with high quality, where the mean value was 3.54, standard deviation was 1.21 and ( $P = .000$ ).

- There are standardised systems to deal with users' complaints, where the mean value was 2.85, standard deviation was 1.22 and ( $P = .012$ ).

The Mann-Whitney test showed that there were statistically significant differences in KSU, based on the mean averages of responses regarding the following statements:

- The library seeks feedback from customers to improve its products and services ( $P = .000$ ).
- Processes are improved using innovation in order to fully satisfy users ( $P = .000$ ).
- Work methods and organisational processes are explicitly defined ( $P = .005$ ).
- There is comprehensive documentation about work methods and organisational processes ( $P = .001$ ).
- Quality manuals and organisational processes are periodically revised ( $P = .003$ ).
- Systems of indicators are in place to review changes in processes ( $P = .001$ ).
- Work processes exist that promote efficient behaviour patterns throughout the library ( $P = .002$ ).
- Services are designed based on user needs and expectations ( $P = .000$ ).
- Standardised systems are in place to deal with users' complaints ( $P = .000$ ).

For the job title, there was a statistically significant difference between staff with the job title "Other" and those from other job titles regarding two statements:

- Processes are systematically designed and managed ( $P = .003$ ).
- Work processes exist that promote efficient behaviour patterns throughout the library ( $P = .004$ ).

For age, a statistically significant difference was found between the mean average of responses of the staff aged between 25 and 34 years old and those from other age groups regarding the following statements:

- The library seeks feedback from customers to improve its products and services ( $P = .005$ ).
- Work processes exist that promote efficient behaviour patterns throughout the library ( $P = .006$ ).
- Services are designed based on user needs and expectations ( $P = .033$ ).
- Services provided to the users are designed with high quality ( $P = .001$ ).
- Standardised systems are in place to deal with users' complaints ( $P = .002$ ).

With regard to experience, gender, highest degree and specialisation, there was no statistically significant difference between the participants regarding all statements in this process category.

To summarise, the participants in KSU felt that most of the statements in the process category were not applied in their IC, indicating the absence of an effective process management framework. Participants with title "other" perceived some statements in this category, which might be explained by the fact that these staff members were responsible for clerical work only and excluded from taking part in designing and managing processes within their ICs. Fewer staff in the age band 25 to 34 agreed with some of the statements compared with participants in other age bands.

## 6.2.6. User Results

Table 6.13: User result ( $n = 318$ )

No	Statement	Mean	S.D.	P
57	Users' satisfaction has improved	3.20	1.15	.005
58	Communication with users has improved	3.34	1.19	.000
59	Users' complaints have decreased	3.17	1.08	.021
60	Users' impressions about the library and its services have changed for the better	3.15	1.12	.026
61	Users' loyalty to the library has increased	3.18	1.18	.034

As can be seen in Table 6.13, the Wilcoxon signed-rank one-tailed test showed that all statements in this category were agreed with by the participants, with statistically significant differences as follows:

- User satisfaction has improved, where the mean value was 3.20, standard deviation was 1.15 and ( $P = .005$ ).
- Communication with users has improved, where the mean value was 3.34, standard deviation was 1.19 and ( $P = .000$ ).
- Users' complaints have decreased, where the mean value was 3.17, standard deviation was 1.08 and ( $P = .021$ ).
- Users' impressions about the library and its services have changed for the better, where the mean value was 3.15, standard deviation was 1.12 and ( $P = .026$ ).

- User loyalty to the library has increased; where the mean value was 3.18, standard deviation was 1.18 and ( $P = .034$ ).

The Kruskal-Wallis Test showed no statistically significant difference between respondents in the six ICs towards statements in users' results category. Based on participants' demographic information, there was no statistically significant difference between the age, gender, highest degree and specialisations. However, for age, the Mann-Whitney test showed a statistically significant difference between the mean averages of responses of staff with the job title "Other" and those from other job title groups regarding all statements in this category as follows:

- Users' satisfaction has improved ( $P = .007$ ).
- Communication with users has improved ( $P = .015$ ).
- Users' complaints have decreased ( $P = .004$ ).
- The users' impressions about the library and its services have changed to the better ( $P = .002$ ).
- Users' loyalty to the library has increased ( $P = .001$ ).

For experience, a statistically significant difference was identified between the mean average of responses of staff with 10 years' experience or less and those from other experience groups with the following statements:

- Users' satisfaction has improved ( $P = .001$ ).
- Users' complaints have decreased ( $P = .001$ ).
- The users' impressions about the library and its services have changed to the better ( $P = .002$ ).



- Users' loyalty to the library has increased ( $P = .037$ ).

To summarise, participants in all of the six ICs perceived user-related issues positively, indicating that user-oriented frameworks exist in these ICs. Staff with the title "Other" evaluated their ICs' efforts in meeting user needs lower than other groups in the job title category, which might be explained as resulting from the fact that these staff are isolated from being involved in user-related issues. Finally, participants with experience of 10 years or less evaluated the efforts of their ICs in meeting user needs lower than other groups in the experience category.

### 6.2.7. People Results

**Table 6.14:** People results ( $n = 318$ )

No	Statement	Mean	S.D.	P
62	Employee motivation and commitment are encouraged	2.32	1.33	.000
63	Employee willingness to work extra time has improved	3.18	1.31	.020
64	Employees identify and provide solutions to work problems	2.36	1.25	.000
65	Employees share organisational values	2.99	1.17	.601
66	Employee absenteeism has decreased	2.97	1.10	.286
67	Employee turnover has decreased	2.88	1.05	.030
68	Employee opinions contribute to improving work	2.42	1.39	.000
69	Communication between employees has improved	3.12	1.22	.311
70	Employee satisfaction has improved	2.42	1.09	.000

In Table 6.14, the Wilcoxon signed-rank one-tailed test revealed statistically significant differences between the participants regarding the following statements:

- Employee motivation and commitment are encouraged, where the mean value was 2.32, standard deviation was 1.33 and ( $P = .000$ ).
- Employee willingness to work extra time has improved, where the mean value was 3.18, standard deviation was 1.31 and ( $P = .020$ ).
- Employees are allowed to identify and provide solutions to work problems, where the mean value was 2.36, standard deviation was 1.25 and ( $P = .000$ ).
- Employee turnover has decreased, where the mean value was 2.88, standard deviation was 1.05 and ( $P = .030$ ).
- Employee opinions are taken into consideration to contribute to improving work, where the mean value was 2.42, standard deviation was 1.39 and ( $P = .000$ ).
- Employee satisfaction has improved, where the mean value was 2.42, standard deviation was 1.09 and ( $P = .000$ ).

A statistically significant difference was identified between the mean average of the participants' responses from KSU and those from other ICs regarding the following statements:

- Employee motivation and commitment are encouraged ( $P = .001$ ).
- Employee turnover has decreased ( $P = .003$ ).
- Employee opinions contribute to improving work ( $P = .011$ ).

For job title, a statistically significant difference was identified between the mean averages of responses of the staff with the job title “Other” and those from other job title groups regarding the following statements:

- Employee willingness to work extra time has improved ( $P = .003$ ).
- Employees identify and provide solutions to work problems ( $P = .006$ ).
- Employee satisfaction has improved ( $P = .006$ ).

For experience, statistically significant differences between the mean average of responses of the staff with 10 years’ experience or less and those from other experience groups were found regarding the following statements:

- Employee motivation and commitment are encouraged ( $P = .000$ ).
- Employees share organisational values ( $P = .026$ ).
- Employee absenteeism has decreased ( $P = .007$ ).
- Communication between employees has improved ( $P = .012$ ).

Finally, there was no statistically significant difference between the participants’ age, gender, degrees and specialisation regarding all statements in process category.

To summarise, some aspects of people results were absent in KSU, according to the participants, which confirms the results presented in section 6.2.3, which showed the absence of a people-oriented initiative in KSU. Participants working under the title “Other” and those who had 10 years’ or less experience had the lowest level of agreement with statements in this category.

### 6.2.8. Society Results

**Table 6.15:** Society result ( $n = 318$ )

No	Statement	Mean	S.D.	P
71	The library participates in serving the community	3.39	1.23	.000
72	The library has a positive impact in society	3.40	1.21	.000
73	The library has an active involvement with communities groups, schools and voluntary groups	3.24	1.23	.001

As shown in Table 6.15, the Wilcoxon signed-rank one-tailed test shows that all the statements have statistically significant differences between the sample and neutral value on the Likert scale, as follows:

- The library participates in serving the community, where the mean value was 3.39, standard deviation was 1.23 and ( $P = .000$ ).
- The library has a positive impact in society, where the mean value was 3.40, standard deviation was 1.21 and ( $P = .000$ ).
- The library has an active involvement with communities groups, schools and voluntary groups, where the mean value was 3.24, standard deviation was 1.23 and ( $P = .001$ ).

The Kruskal-Wallis test revealed that there was no statistically significant difference between the respondents in the six ICs towards the statements in the society results category. Regarding the participants' demographic information, there was no statistically significant difference between the participants' job title, age and gender. The participants with 31 years' experience or more were significantly different from

other experience groups regarding whether they thought that the library participated in serving the community, where a statistically significant difference was found ( $P = .000$ ).

Statistically significant differences were found between the mean averages of responses of Diploma holders and those from other degree holders regarding the following statements:

- The library participates in serving the community ( $P = .002$ ).
- The library has an active involvement with communities groups, schools and voluntary groups ( $P = .001$ ).

Finally, statistically significant differences were found between the mean averages of responses of participants with a background in Physics and those from other backgrounds regarding all statements in this category as follows:

- The library participates in serving the community ( $P = .001$ ).
- The library has a positive impacts in society ( $P = .028$ )
- The library has an active involvement with communities groups, schools and voluntary groups ( $P = .044$ ).

To summarise, there was an agreement amongst most of the participants, except those with 31 years' or more experience, about the efforts made by their ICs to serve the society effectively. The participants who had Diploma as the highest level and those who had a bachelor's degree in Physics ranked their ICs' efforts in serving the community lower than other groups.

## 6.2.9. Key Performance Results

Table 6.16: Key performance results ( $n = 318$ )

No	Statement	Mean	S.D.	P
74	The public can use the library facilities	3.58	1.26	.000
75	There is cooperation between your library and community organisations	3.35	1.18	.000
76	Quality of services has improved	3.36	1.19	.000
77	Process efficiency has improved	3.22	1.18	.000
78	Knowledge about efficient operations management has improved	3.08	1.12	.311
79	Recorded time to finish work has improved	3.16	1.20	.034

As can be seen in Table 6.16, the Wilcoxon signed-rank one-tailed test revealed that there were statistically significant differences between the participants in the following statements:

- The public can use the library facilities, where the mean value was 3.58, standard deviation was 1.26 and ( $P = .000$ ).
- There is cooperation between your library and community organisations, where the mean value was 3.35, standard deviation was 1.18 and ( $P = .000$ ).
- The quality of services has improved, where the mean value was 3.35, standard deviation was 1.19 and ( $P = .000$ ).
- The process efficiency has improved, where the mean value was 3.22, standard deviation was 1.18 and ( $P = .004$ ).

- Recorded time to finish work has improved, where the mean value was 3.16, standard deviation was 1.20 and ( $P = .034$ ).

The Mann-Whitney test indicated that statistically significant differences were found between the mean average of responses of participants from KSU and those from other ICs in the following aspects of key performance results:

- There is cooperation between your library and community organisations ( $P = .020$ ).
- Recorded time to finish work has improved ( $P = .002$ ).

Regarding demographic information, there was no statistically significant difference between participants' age, highest degree and specialisation. For job title, a statistically significant difference was identified between the mean average of responses of Head of Departments and those from other job title groups regarding the following statements:

- The public can use the library facilities ( $P = .006$ ).
- Process efficiency has improved ( $P = .020$ ).
- Recorded time to finish work has improved ( $P = .048$ ).

For experience, a statistically significant difference was found between the mean average of responses of participants with 31 years' or more experience and those from other experience groups regarding the following statements:

- The public can use the library facilities ( $P = .024$ ).
- Quality of services has improved ( $P = .026$ ).
- Knowledge about efficient operations management has improved ( $P = .004$ ).

- Recorded time to finish work has improved ( $P = .001$ ).

To summarise, the participants from KSU felt that their IC was not successful in applying some of the statements of key performance results, indicating the absence of an effective framework to improve the IC's performance. Heads of Departments and participants with 31 years' or more experience perceived some of the statements in this category negatively, which might be due to the fact that they disagreed with their managers in terms of their efforts at performance improvement.

### 6.3. Discussion of the Quantitative Results

The quantitative results revealed several conclusions that can assist in providing a clear perception of the quality practices in Saudi ICs. Interestingly, most of the ICs had several indicators of a high level of quality in their services. However, KSU was an exceptional case, where the mean average of the participants' responses showed that most of the statements in the questionnaire were not applied in their IC, including: leadership, policy and strategy, people, partnership and resources, process, people results and key performance results (Tables 6.8, 6.9, 6.10, 6.11, 6.12, 6.14 and 6.16). The quality practices in the ICs under investigation are presented in the following sections in order to shed light on the differences between them in terms of having a quality initiative.

The culture in KSU was ineffective and lacking in terms of accepting the quality principles (Table 6.8). An appropriate environment to be aligned with a quality concept was not created in KSU, according to the mean average of the participants' responses. On the other hand, the participants from the other five ICs felt that their ICs created an



appropriate culture that was aligned with the quality concept through the use of teamwork and creating a participative work environment. These ICs varied in terms of their degree of willingness to adopt a culture of quality: the cultures in KAU, KFUPM, UAU and IU were aligned with TQM principles; however, some aspects of quality, especially in policy, strategy and people, were not met in KFU, according to the participants.

Leadership was accepted in most Saudi ICs, thus reflecting the availability of leaders who were able to guide the efforts of service improvement (Table 6.8). A participative management style was used in five ICs, reflecting managers' desire to empower staff to enrich the efforts of service improvement. KSU was an exceptional case, as it had an ineffective and authoritative management style that blocked the efforts of service improvement and excluded staff from being a part of the service improvement initiative, according to the respondents. Some aspects of leadership were perceived negatively by Department Heads, which was indicative of administrative conflict between them and managers. It can also be said that Department Heads were not convinced that the existing management style was valid. Moreover, members of staff who were 25 years or younger were dissatisfied with some of the leadership statements in their ICs, showing that the participants' age could influence staff evaluation of leadership. This finding might, be due to the limited knowledge and experience of management and leadership of LIS organisations among the younger staff.

All the ICs, except KSU, were considered to be efficient at managing their policy and strategies, according to the mean average of the participants' responses. In KSU, the participants felt that future plans based on the users' needs and the results of

performance indicators were not developed (Table 6.9). Strategic planning was not evident in KSU and the future plans were unpredictable and not communicated with staff. Planning was centralised and future plans were not communicated to, or understood by, staff. Further evidence of the absence of effective planning in KSU was in the lack of the development of plans based on information from performance measurement. In addition, the mean average of the participants' responses indicated that performance assessment was not evident in KFU, which indicates that weaknesses in its processes were not identified and that information about users was not used to develop policies. On the other hand, staff understanding in the other five ICs are mature had a positive impact on the application of TQM. They used strategic planning to define direction and make decisions on allocating resources for service improvement. It was discovered that some statements in the policy and strategy category were perceived negatively by staff aged 25 years or less, probably reflecting their limited experience in developing policies. Females' awareness of policy and strategies was limited compared to males, probably because the authority for developing policies was limited to the males only. These female participants worked at separate sites and were responsible only for providing basic services to the users, and did not take part in developing policies.

The user-oriented framework seems to be effective in most Saudi ICs, reflecting that user satisfaction is one of the ICs' priorities (Tables 6.9 and 6.13). The participants' agreement with all statements in this category shows that efforts have been made to increase users' satisfaction and loyalty. The ICs differed in their efforts to meet the users' needs: KSU was seen to be making the least effort and there was no evidence there of a user-oriented framework. Other ICs met users' needs through designing

services based on these needs, and having effective complaint systems and open communication with users. Staff with the job title “Other” seem to have misunderstood some aspects of users’ experiences, as these staff were responsible for clerical work only and excluded from taking a part in the services improvement efforts. Those staff with low levels of experience disagreed with some of the user results aspects, showing that these staff, during their limited working period in the IC, did not find their IC successful in satisfying users.

Staff-related issues were the most affected aspects of quality, reflecting staff dissatisfaction. The results in sections 6.2.3 and 6.2.7 were complementary, showing that management of human resources in the ICs was lacking. It can be argued that these ICs faced obstacles in developing their employees’ skills, which might affect the application of TQM. These obstacles include training, recognition, empowerment and participation. The six ICs did not meet the minimum level of staff requirements. Staff satisfaction in all these ICs seems to be low due to the absence of recognition, rewards, training, empowerment and participation. The Saudi ICs appeared not to realise the importance of employee-satisfaction, which in turn has a negative impact on TQM application. According to the mean average of the participants’ responses, KSU was the most affected IC, where there was no evidence of any attempt to increase staff enthusiasm in the work environment and encourage their contribution to service improvement efforts. The members of staff were dissatisfied and they were not encouraged to participate in applying TQM. Staff aged 25 years or under suffered from a shortage of human resource development, reflected in their dissatisfaction with several issues, such as training, participation, teamwork and recognition. Moreover, staff with 10 years’ or less experience were amongst the most affected individuals in terms of

receiving inadequate level of staff development, as they perceived it. The views of newly hired staff did not necessarily reflect the actual situation in their ICs, as their limited experiences might have hindered their judgement. Finally, staff with the job title “Other” were not satisfied with some people aspects, including motivation, training and recognition. This dissatisfaction could be a consequence of managers’ neglect of developing non-professionals skills and failing to improve their satisfaction.

Partnership and resource aspects were understood by most ICs, showing their success in managing their resources, including information technology, risks and financial resources (Table 6.11). The mean average of the participants’ responses from KSU indicated that most of the statements in the partnership and resource category were not applied in this IC, which in turn had a negative impact on the application of TQM. On the other hand, the other five ICs were good at managing their partnerships and resources, which in turn had a positive impact on TQM application. Department Heads perceived some aspects of partnership and resources negatively, reflecting their dissatisfaction with the current approaches to managing partnerships and resources in their ICs, which could be a consequence of their lack of empowerment and participation in the ICs, involving a belief that they were excluded, and that only managers were responsible for managing this area.

Processes were managed effectively in most Saudi ICs, which could be seen as a success factor in implementing TQM (Table 6.12). Seeking feedback from users enabled these ICs to design services based on users’ needs and these services were reviewed through performance indicators. However, the mean average of the participants’ responses showed that processes were not well-managed in KSU, reflecting the absence of an

effective framework to manage processes; this was a result of the absence of an effective quality unit within this IC to guide the efforts of service improvement. Staff with the job title “Other” might have misunderstood some aspects of the process category, as they were non-professionals and responsible for clerical work only. Staff aged between 25 and 34 years were dissatisfied with some of the process aspects in their ICs.

It was found that Saudi ICs were active organisations serving their communities by working closely with society representatives, including schools and voluntary groups (Table 6.15). It was found that there was interest amongst the ICs and their parent organisations to go beyond the academic community and to reach new users in the city. Staff with experience of 31 years or more had negative perceptions of this issue, probably reflecting negative past experiences with community services. Moreover, Diploma holders and those who were specialised in Physics perceived some aspects of this negatively, probably reflecting a limited relationship between staff specialisation and those with highest qualifications, and the community service.

The mean average of participants’ responses from KSU revealed that cooperation between their IC and community organisations was limited, which might lead one to conclude that KSU was limited to the academic community only (Table 6.16). In addition, time available to finish work had not improved in KSU, reflecting the centralism and bureaucracy that might lead to poor quality services. Other ICs improved work efficiency as they managed the aspects of key performance better. Department Heads, due to their role in managing units within the ICs, seem to have had different points of view from other job title groups, showing that they were not satisfied with some of the aspects of key performance results. These middle managers were not

satisfied with the ICs' efforts to achieving full application of TQM. Long-experienced staff disagreed with some of the key performance aspects, reflecting that they thought efforts to improve performance were limited and not sufficient.

### **Summary**

This chapter presented the quantitative data analysis. Descriptive statistics were used to provide a clear picture of the participants' demographic information. Non-parametric tests were employed in order to achieve conclusions, based on the data obtained, including the Wilcoxon signed-rank one-tailed test, the Kruskal-Wallis test and the Mann-Whitney test.

This chapter answers the first research question regarding the reality of quality practices in university Saudi ICs. The quantitative results revealed that some of the TQM principles were evident and understood by most of the participants, such as the importance of users' satisfaction, teamwork, leadership and the staff empowerment. Quality practices were not evident in KSU. The most affected aspects of TQM in the six ICs were in the people category in Section 6.2.3 and people results category in Section 6.2.7, showing the lack of having a staff-oriented framework.

This chapter highlighted the differences between participants regarding their responses to quality principles, based on demographic information: namely job title, age, gender, experience, highest degree and specialisation. It enabled the researcher to discover the extent to which the characteristics of the research sample influenced the perception of the application of TQM in the Saudi ICs.

This research was designed to collect and analyse quantitative data in the first phase followed by the collection and analysis of qualitative data in the second phase. Thus, Chapter Seven provides an analysis of the qualitative data, which were collected in order to provide a deeper understanding of the TQM application in Saudi ICs.

## CHAPTER SEVEN: QUALITATIVE DATA ANALYSIS

### Introduction

This chapter presents the results from the qualitative phase of this study, which was conducted in order to investigate in depth the applications of TQM in three selected cases. It also answers the second research question:

*Q2. What are the differences in quality management practices between selected Saudi ICs?*

KSU, KAU and KFUPM were chosen to be investigated as case studies to discover the extent to which the TQM concept was applied. The selection of these cases was made mainly due to access and distance considerations. General discussions about these IC were presented in Section 2.3 and 2.4. Staff and managers from KSU, KAU and KFUPM were chosen to take part in semi-structured interviews. The interviews were held during working hours in the IC premises between 10 July and 24 August 2011. The results from the pilot study highlighted the need to discover other staff opinions about the quality practices. Due to the large number of staff working in the ICs, some staff were interviewed in groups. This approach aimed to obtain a large amount of data from several interviewees in a short time period.



## 7.1 Interview Procedures

In order to achieve a good spread of interviewees a quota sampling was used. The population in each IC was divided into two groups based on their position (Librarian and Assistant Librarian). It was expected that at least five individuals in each position would be interviewed. The participants in the quantitative phase who wished to be interviewed were asked to indicate their agreement at the end of the questionnaire. In KSU, five librarians and five assistant librarians agreed to be interviewed in a group; five librarians and four assistant librarians in KAU also agreed, and in KFUPM four librarians and four assistant librarians who agreed to participate.

Prior to the group interviews, hand-outs and a presentation were prepared to explain the purpose of the research and the expected benefits from participating in it. The questions that were asked of the managers were slightly different from those asked of the staff. The reason for this was due to the different roles played by managers and their staff in the IC and in the implementation of TQM. For example, managers, but not staff, were asked about issues such as strategic planning and commitment. In some cases, the same questions were asked but in a different form in order to encourage the participants to provide more information and to compare their answers.

The interviewees were visited in their worksites, prior to the interviews, to have the benefits of taking part in the research explained to them. The place and time for conducting the interviews were chosen by the interviewees to ensure that they were relaxed during the interviews. They were informed that participation in the interview was voluntary, the confidentiality of their data was confirmed, the interviews would be

tape-recorded, and that they had the right to stop recording or withdraw from the study at any time, without having to provide any explanation.

After an introduction, the researcher started the interviews by trying to create an appropriate atmosphere that would make the interviewees feel free to provide their opinions on the issues under discussion. Staff who participated in group interviews were informed that they could be interviewed individually if they so desired in order to prevent any embarrassment or harm. Each interviewee had the same opportunity to talk, discuss and raise new issues that would help in understanding the research problem. The researcher was keen to discuss each point fully before moving on to the next point, in order to avoid losing any detail. At the end of each group interview, the interviewees had the opportunity to add anything that might help in understanding the research problem. The interviewees were informed that they could contact the researcher if they had something to add later. After completing the interviews, the researcher expressed his deep thanks and appreciation to the interviewees for their participation; they were promised that they would be given a full report of the results at the end of the study.

### **7.2. Qualitative Data Analysis**

There is no single approach to analyse qualitative data (Patton, 2010; Saunders *et al.*, 2012). Thematic analysis is useful for integrating many data sources surrounding a complex issue, such as TQM applications (Svensson and Klefsjo, 2006). Inductive coding was employed in order to highlight the main themes in the transcripts. Similar codes were grouped into categories.

There are several procedures associated with conducting inductive analysis of qualitative data (Miles and Huberman, 1994). These procedures include preparing data files that are arranged into a common format, e.g. interviewees' comments. Subsequently, the transcripts were read closely several times to identify the themes, important details and main categories. In this way, relationships between themes were identified in an attempt to build a base for evidence. Following this, the researcher reviewed the categories to find subtopics and sub-themes. The related synonyms were merged into one term in order to narrow the number of overall themes. Examples of coding are presented in Section 5.9.2.

The analysis process was supported by quotations from the participants' discourse and evidence, in order to strengthen the analysis and to capture a wide range of issues (Yin, 2009). Furthermore, each case study was analysed separately, and then a cross-case analysis was carried out in order to provide a clear picture concerning the current quality practices in the ICs under study. The Quality Unit Manager position exists only in KAU, since it achieved the ISO 9000 in 2008. The number of interviewees in KFUPM was lower than in other universities, due to the low number of staff and managers in KFUPM. Table 7.1 gives details of the interviewees in each IC and the length of audio recordings.

Table 7.1: Interview details

University		Interviewees	Length of audio recording
KSU	Individual interviews	Dean	57 minutes
		Associate Dean (Technical affairs)	53 minutes
		Associate Dean (Administrative affairs)	52 minutes
		Library Manager	52 minutes
	Group interview	Staff (Five Librarians and five Assistant Librarians)	2 hours & 34 minutes
KAU	Individual interviews	Dean	49 minutes
		Associate Dean (Technical affairs)	1 hour & 2 minutes
		Associate Dean (Administrative affairs)	55 minutes
		Quality Unit Manager	1 hour & 21 minutes
	Library Manager	1hour & 1 minute	
Group interview	Staff (Five Librarians and four Assistant Librarians)	2 hours and 56 minutes	
KFUPM	Individual interviews	Dean	40 minutes
		Associate Dean	1 hour & 26 minutes
		Library Manager	50 minutes
	Group interview	Staff (four Librarians and four Assistant Librarians)	2 hours & 25 minutes

Several themes emerged from the interviews, namely process management, management behaviour, user focus and staff issues. The role of the researcher was to guide the discussion, rather than to insist that interviewees responded to specific questions. This led to wide-reaching discussions and the emergence of topics that were of importance to the interviewees. The results of the case studies are presented in the following sections.

### 7.3 KSU

KSU was established in 1957 as the oldest university IC in Saudi Arabia with 18 sites spread across different colleges. In 1974, these sites merged into one central IC on the

main campus with seven sites, including two female sites, four medical sites, and one site in the community centre. During recent years, the number of sites has risen rapidly to 18 sites including the central site in the main campus. The main site is responsible for all the IC's managerial and technical processes, whilst other sites provide limited services, such as circulation and databases only (KSU, 2012). Figure 7.1 shows the hierarchical structure of KSU IC.

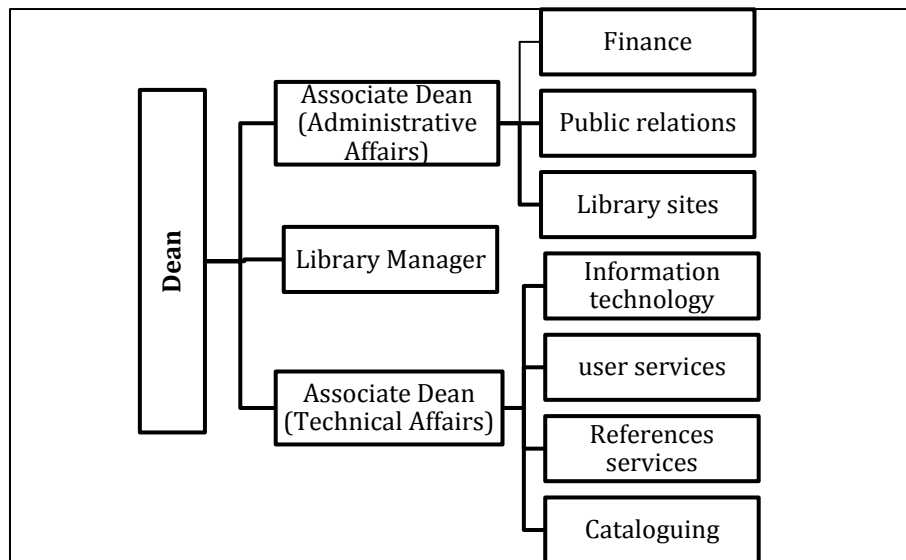


Figure 7.1: Hierarchical structure of KSU

A quality trend started in KSU when the quality deanship was established within the university in 2005 as a result of the formation of the National Commission for Academic Accreditation and Assessment (NCAAA) in 2003. KSU established a development and quality unit managed by the Associate Dean for Administrative Affairs, due to the absence of a position of Quality Unit Manager.

All four managers in KSU agreed to take part in the interviews. Notably, none of these managers had a degree in LIS; the Associate Dean for Administrative Affairs had a PhD in management. Five librarians and five assistant librarians agreed to be interviewed in a group; three librarians had bachelor degrees in LIS; two had Diploma degrees in LIS. Moreover, one of the assistant librarians had a bachelor degree in Finance, one was a bachelor degree holder in Arabic, one had a diploma in Computer Science and two had diplomas in Education.

### **7.3.1 Process Management**

The interviewees were asked about how the processes were managed in their IC. The participants explained that there was no flow-charting for any process nor were there standardised approaches to manage processes. The Dean said:

“Every process was designed and delivered on an individual basis without a standardised procedure. I think the work is done without using any method of analysing processes.”

It was discovered that supplier management was limited to the IC management and that staff were excluded from this process. The interviewees explained that suppliers were rarely evaluated, due to the lack of accountability by the university administration. It was noticed that the suppliers were limited to a small number of local private companies that were characterised by a low level of quality. The Library Manager stated:

“The IC suppliers are limited to two or three companies. These companies have nothing to add to the IC and they have not been evaluated by the IC or even by the university. No one is interested in evaluating these suppliers.”

“We [staff] are not allowed to evaluate the suppliers, where this is the managers’ responsibility” (Librarian, 1)

In terms of communication between administrative levels, the interviewees expressed the view that communication was open between lower administrative levels only and that communication with the senior management members had broken down. The managers’ ability to be involved in service improvement process seems to have been lacking in those cases where they did not understand. According to the interviewees, both the IC and users bear some responsibility for poor communication, as three interviewees observed:

“The managers are not specialised in LIS and they are unable to provide feedback to us... so we went directly to the head of departments when we need anything... this management is isolated from the library context.” (Librarian 3)

“Our users’ did not take this issue [feedback] seriously. Unfortunately, most of the users are not interested in the library and its services.” (Associate Dean for Technical Affairs)

“The IC management is not interested in the users’ feedback. The managers believe that the users have nothing to add to the IC. Besides, these managers do not want the users to participate in managing the IC.” (Librarian 5)

In addition, the interviewees were asked about the extent to which teamwork was applied in the IC. It was noticed that the head of departments encouraged teamwork within their departments to save time and effort. Staff members were keen to participate in these teams within their departments for transferring experience and developing their skills. On the other hand, in the rare cases where teams were formed on the IC level, the staff members were incapable of participating in service improvement effectively, due to the lack of authority to make decisions. An interviewee said:

“Within units, teamwork is widely used... we use it improve service and transfer experience” (Librarian 3).

“We cannot make any decision without approval from the IC management; we are isolated from making decisions by ourselves.” (Librarian 2)

An awareness of the vital role of teamwork seemed to be missing in KSU as this concept was not widely applied. Moreover, there was no clear standardised system for choosing team members and there was some evidence of managers’ bias. This bias in choosing team members led to staff dissatisfaction with the work environment. Two interviewees commented:

“The managers usually focus on three or four staff members when forming these teams. Other staff members usually were excluded from participating in these teams.” (Assistant Librarian 1)



“I have been working in this IC for more than 12 years and I have not been asked to participate in any team. I have tried several times to participate, but I was refused each time without a good reason.” (Assistant Librarian 4)

The interviewees were then asked what efforts had been made in order to assess IC services. It was discovered that there was no evidence that the IC performance was measured, because of the lack of accountability from the parent organisation. The interviewees highlighted the autocratic management style in the IC as the reason for the lack of performance assessment. The Dean confirmed:

“Our performance has never been measured due to the lack of accountability by the university administration. In the current autocratic management style, it is difficult to improve performance without a commitment and support from the university.”

There was a clear absence of job descriptions in KSU. Two interviewees confirmed:

“I have not received any description of my job. I know my workload by practising the work only.” (Librarian 4)

“The job description is missing because of the lack of interest by the IC management and the university itself. This issue is not one of their priorities.” (Assistant Librarian1)

The management style has old and out-of-date work procedures. There was a clear resistance to change among the management and among some staff as they did not believe that change would improve services. In addition, the quality unit was seen as

ineffective in developing work procedures and in implementing TQM. Three interviewees commented:

“Every process is a routine job repeated for years and nobody is allowed to change any procedure.” (Librarian 4)

“The work procedures and tools are very old. For example, the cataloguing tools used now in the IC have remained without change for more than 20 years.”  
(Assistant Librarian 2)

“The IC has established a quality unit. Unfortunately, this unit has failed in its mission to raise the quality of services provided by the library and it has also failed in the development of work procedures in accordance with the requirements of Total Quality Management” (Librarian 3).

Subsequently, the interviewees were asked how the IC maintains the quality of its services without measuring the performance. There was a strong belief amongst the managers that the current services provided by the IC were sufficient and that the users satisfied. The Library Manager identified an approach to measure the IC performance:

“Our users’ complaints decreased, which is an indicators of a good level of service.”

However, the staff interviewees revealed that the low number of users’ complaints was caused by the absence of a standardised complaint system and the poor interaction with users by the IC management and staff. Two interviewees said:

“There is no clear procedure to solve the user complaints. It depends on the nature of the complaint and the employee deals with it.” (Library Manager).

“The front desk employees are not trained to deal with such complaints and they are incapable of making any decision because of the managers’ policy that forces these staff to direct each complaint to the management” (Librarian 3)

### **7.3.2 Management Behaviour**

The interviewees were asked about managers’ activities and roles in terms of improving services. The staff interviewees strongly expressed the view that professional awareness is an important factor that should be found in management. The interviewees stressed that the non-specialised management in their IC influenced the service improvement process and the managers’ actions in dealing with LIS context. Two interviewees stated:

“This caused many problems... they [managers] do not understand us.” (Librarian 3)

“A specialised management without experience is better than the current management. There is a gap between us and the managers in relation to LIS profession.” (Librarian 1)

The interviewees complained that some managers had a lack of understanding regarding the quality concept, and did not have the desire to apply this concept in practice, due to a lack of support by the university administration. Over the years, the managers’ personal desires had influenced the service improvement initiatives. Two interviewees explained:

“The managers never communicate the mission statement or the vision to all levels... they have their own agenda that is irrelevant to ours.” (Librarian 2)

“The university established a quality initiative years ago and did not support it and increase our awareness, which made the university units pay less attention to the quality implementation.” (Assistant Librarian 3)

The interviewees were asked about how decisions were made in their IC. Their responses showed that the decision-making process was not carried out by following a well-established and standardised method and that most of the decisions were not built on reliable data but were based on individuals’ opinions. The autocratic management style excluded staff from participating in the decision-making process, as an interviewee commented:

“The decisions are usually taken by the managers and we are ignored. The decisions usually are not built on a solid basis and reliable data, but they are based on nothing, unfortunately.” (Assistant Librarian 4)

The organisational culture influenced the decision-making process; where accountability for the university administration is missing, the responsibility usually came from the individual’s own concerns. Some of the interviewees believed that one of the Associate Deans was the only manager with leadership skill. However, this manager’s activities are his individual efforts and he faced challenges in terms of conflict with other managers. Moreover, the socio-culture factors influenced the managers’ perception towards leadership. Two interviewees confirmed this by saying:

“The actual leader of this library is the Associate Dean. Other managers do not have what he has... sometimes; we noticed conflicts between the management members because of the fear amongst them of losing power.” (Assistant Librarian 2)

“I can say that this individual [Associate Dean] is the leader of this IC and he is the only manager who can inspire and motivate us” (Librarian 2)

“Our managers are not convinced that the leadership skills are essential. For example, the university administration sometimes conducts short seminars in developing management skills; none of our managers has attended these seminars. They think their high academic degrees are enough.” (Librarian 1)

Regarding managers’ commitment, the interviewees revealed that there was no long-term commitment to quality amongst managers, as they became less interested in service improvement and quality issues. In addition, there was evidence to suggest that management perceived TQM negatively and did not believe in its ability to increase productivity. The managers’ commitment to quality, superficial though it was, was a consequence of pressure from the university administration. This pressure had decreased recently and quality activities in the IC had become less effective. Several interviewees expressed this view:

“The managers were interested in quality but they are not talking about it now. They were concerned about a long-term commitment.” (Assistant Librarian 5)

“Our management is not fully convinced in the quality principles. They [managers] were enthusiastic only because the university administration was interested in the quality concept. Now, everybody has forgotten about it.” (Assistant Librarian 3)

“The university pressure in applying the quality concept became weaker and their commitment decreased as well as ours. I believe that it is difficult to be committed to something for a long time.” (Library Manager)

Regarding strategic planning, managers were asked how they planned for services and processes. There was no evidence of any strategic planning inside the IC, where the planning was limited to a committee formed in 2006 by the university administration with limited authority given to the IC managers. An interviewee confirmed that:

“We are not allowed to decide how the work should be done. The planning process is limited to the university through its committee. Even the managers do not play a role in planning for the IC.” (Assistant Librarian 2).

### **7.3.3 User Focus**

The interviewees were asked how the IC maintained a good level of user satisfaction as well as what efforts had been made with the aim of satisfying users. The interviewees highlighted the managers’ lack of interest in meeting the needs of the users. Two interviewees commented:

“The users’ satisfaction is not on the managers’ agenda as it is rarely discussed. The managers’ belief is the users will be satisfied if they found what they are

looking for. They do not pay attention to developing services or survey the users.”  
(Librarian 2).

“The users’ satisfaction has never been measured and the connection between the  
IC and its users is almost broken.” (Assistant Librarian 3)

On the other hand, there was a common concept amongst managers that users  
themselves did not interact with the IC as they should, as they did not participate in  
assessing the IC or in service improvement efforts. An interviewee said:

“Our users are not interested in assessing our services. They do not take it  
seriously.” (Library Manager)

The interviewees believed that the only approach used to measure users’ satisfaction  
was recording the number of user complaints through direct interaction. This approach  
was ineffective and insufficient to provide detailed information about user perception of  
services. An interviewee stated:

“We [managers] are convinced that the decreasing complaint rate is a strong  
indicator of a high level of the users’ satisfaction.” (Associate Dean for  
Administrative Affairs)

Based on some of the interviewees who had worked on the front line, most staff in such  
a position were not trained or qualified to provide high-quality services and solve user  
complaints. Two interviewees commented:

“Front line staff are not prepared and trained to serve the users. Their abilities to deal with the users’ complaints are limited. In some cases, these complaints were ignored by the staff.” (Librarian 4)

“Yes they [front line staff] are not well-trained to deal with the public.” (The Dean)

In terms of the role of the IC to serve the academic community and city societies, the interviewees agreed that the IC provided such a service. However, the interviewees indicated that the bureaucratic management style reduced the IC’s ability in serving users from outside the university, as explained by an interviewee:

“Serving the people of the city is one of our objectives, but the bureaucratic management style slowed our efforts in serving the city community.” (Dean)

#### **7.3.4 Staff**

All interviewees were asked about the extent to which members of staff are satisfied with the current situation. The interviewees among the staff spoke of their dissatisfaction and attributed it to the absence of several factors including motivation, training, management style and empowerment. As a consequence, this IC had lost professional staff over the years. A librarian confirmed:

“Many professionals left this IC for other ICs because of the lack of motivation and recognition for their achievements and efforts. They did not get what they deserve.” (Librarian 1)



In addition, it was discovered that managers did not support staff empowerment; it appeared that such managers feared losing power and did not trust their staff. It was thought that these managers were influenced by the socio-cultural preoccupation with status and prestige and, as a result, avoided empowering and counselling lower levels of staff. Two interviewees stated:

“The managers want to keep the power in their hands, as it means a lot to them. A common concept is that the managers have the full authority to make decisions and others are excluded.” (Assistant Librarian 2)

“Unfortunately, their high academic degrees and positions prevent them from allowing us to participate in managing the IC. Our managers think that we are not qualified to make decisions.” (Librarian 4)

Interestingly, the Dean confirmed the preoccupation with status and prestige by saying:

“The staff are not trained and are too inexperienced to make important decisions...they can make decisions within their departments, but only after receiving our approval, because we [managers] are responsible for decisions”.

Regarding training, it was discovered that the reason staff gave for attending training sessions was to help to gain promotion, as stated by one of the managers:

“If we asked them [staff] to attend a training programme without a promise of promotion, no one will attend. There is no desire to develop their skills.” (Library Manager)

It was found that the interviewees, whether manager or staff, were not satisfied with training schemes and opportunities. It was felt that the training programmes, in terms of content, methods, and objectives, were poorly designed and out-of-date. In addition, the quantity of training programmes provided to staff was low. Thus it appears that the current training programmes did not meet the minimum level of staff and IC needs. The interviewees emphasised that there was only one training programme provider, the Institute of Public Administration (IPA) that provides a limited number of training programmes to LIS specialists. Two interviewees commented:

“IPA has a limited number of training opportunities each year. We have to be fair... we want to give an equal opportunity to everyone to enrol in these training programmes.” (The Library Manager)

“The current training programmes are not sufficient and below our expectations. The available training programmes are poor and focus on the traditional approaches in cataloguing or acquisition only.” (Librarian 3)

In addition, the interviewees blame the university for the lack of training as it did not seek other resources to provide internal training programmes. The Dean justified this by highlighting the policy of the parent institution:

“The university regulations prevent the IC from having its own resources to develop the staff. Also, the university recognises the Institute of Public Administration as the only training programmes provider.”

The interviewees felt that the IC managers hesitated in taking any initiative independent of the university in developing staff skills. This hesitation came from their inability to manage financial resources effectively. An interviewee stated:

“The managers do not want to take responsibility for any financial issues. So they do not want other resources and expect that resources come from the university. Other units within the university have their own resources and they manage these resources very well.” (Librarian 3)

Moreover, the interviewees felt that training needs were not identified and evaluated, reflecting the absence of a process to predict the future needs of employees. In addition, staff performances following attendance at training sessions were not measured. An assistant librarian explained:

“We just go to these training programmes without planning our objectives or what we expect from these programmes. Even the management has never evaluated these programmes or our performance.” (Assistant Librarian 5)

During the interviews, the staff interviewees frequently highlighted the importance of professional awareness. They also referred to the shortage in the number of professionals in the past; however, the recent rapid increase in their numbers had not enabled the IC to meet the increasing needs of users. This has put pressure on the IC management and increased the workload of staff, more than was the case for their peers in other ICs, as confirmed by an interviewee:

“This problem still exists where the number of new LIS jobs was lower than other professions. Most of our professionals have several tasks to do, which is absolutely more than their abilities.” (Dean).

When the interviewees were asked about their perception of rewards, they pointed to the fact that the government prevents its organisations from providing financial rewards to staff, such as bonuses. Other approaches were used to reward staff financially, such as overtime and representing the university at international events, where staff could receive financial benefits. The Associate Dean for the Administrative Affairs said:

“Overtime and participating in the books fairs is all that we can do to reward the staff. The civil service system should be blamed for not allowing us to use financial resources as a form of reward.”

The interviewees were asked if they had been motivated, and in what way. There was evidence to show that morale boosters were used; however, the interviewees believed that morale boosters were not sufficient to encourage staff to develop services and increase productivity. Morale boosters in this study, according to the interviewees, refer to rewarding staff and motivating them with a letter of appreciation and encouragement. In that atmosphere, the motivation of morale lost its effectiveness and role in creating an environment of competition. An interviewee evaluated this type of motivation by saying:

“The managers used appreciation letters as a morale motivation in order to cover their inability to provide training programmes or financial rewards for us. Any

employee can get these letters without making any addition to the IC.” (Librarian 5)

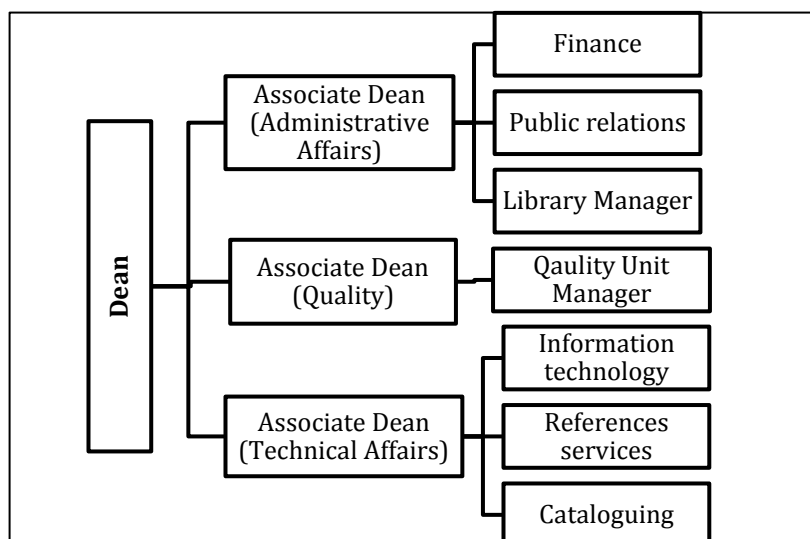
### ***7.3.5 Summary of KSU***

In KSU, four managers were interviewed individually, whilst five librarians and five assistant librarians were interviewed in a group. The interviewees believed that TQM was not implemented in their IC, due to the lack of management commitment. It was discovered that the quality level of the services was low, due to the absence of an effective and permanent quality culture in the IC and its parent organisation. The autocratic management style reduced staff empowerment, satisfaction and increased staff withdrawal.

Teamwork was not evident, which caused staff to lose their enthusiasm with regards to improving services. Job descriptions were not given due to the lack of accountability from the parent institution. Moreover, planning was limited to a non-LIS external committee that influenced the setting of future plans. Staff encouragement and motivation were not evident. These management errors led to the failure to meet users' needs or to improve services; the management's interest in meeting user needs and increasing their satisfaction was superficial, as it was not translated into procedures to address the situation. The lack of good quality training increased staff dissatisfaction.

## 7.4 KAU

KAU was established in 1974 with the aim of serving more than 73,500 users through three male sites and one female site. The central IC is located in the main campus and it has the responsibility for all the management and technical processes; the other sites are responsible for providing limited services, such as circulation, reference services and online search. The managers in KAU have high level of LIS academic qualifications. This LIS-specialised management was hired as a response to the university policy that emphasised the importance of leading the IC with appropriately qualified individuals. In 2008, KAU gained the ISO 9000 (KAU, 2012) and the quality level has been maintained by a quality unit managed by the Quality Unit Manager. This unit works under the authority of the Library Dean, with coordination by the quality deanship in the university in order to improve the IC services according to the principles of TQM. Figure 7.2 shows the hierarchical structure of KAU.



**Figure 7.2:** The hierarchical structure of KAU

In KAU, all five managers agreed to be interviewed: they were the Dean, two Associate Deans, Library Manager and the Quality Unit Manager. These managers are highly specialised in LIS, and their degrees start from Masters and go up to PhD level. Five librarians and four assistant librarians agreed to take part in the group interview. There were attempts to involve more assistant librarians in the group interview; however the majority declined for personal reasons. Staff interviewees had different degrees in different specialisations: four of the librarians had LIS bachelor degrees and one had a diploma in LIS; one of the assistant librarians had a bachelor's degree in Arabic and one in Finance; the other two assistant librarians had diplomas in Management and Computer Science, respectively.

### **7.4.1 Process Management**

The interviewees were asked about how the processes were managed in IC and what the ISO 9000 award had added to the IC. It was discovered that the quality initiative served to improve the efforts of process management. The services were highly designed and evaluated through cooperation between the IC and the Quality Deanship in the university. The quality unit in the IC was active in designing the work procedures systematically with a high level of quality. It was found that there was a systematic approach to the design, delivery and review processes, based on reliable data which emerged from performance indicators. These results were confirmed by several interviewees:

“The IC management improves work procedures to ensure the highest level of quality through reviewing the main processes and analysing data. This can help us to reveal the problems and inefficiencies in our system.” (Library Manager)

“The quality deanship conducts meetings with us [managers] continuously to discuss the key performance indicators. These indicators were compared with international standards and available to everyone in the IC to give a clear perception about how to improve the services and what are the future plans.” (Dean)

“I can tell you that a lot of things were changed for the better since we implemented the quality concept. The productivity rate has become higher and the vast majority of the users’ needs were met. This achievement could not be reached without improving and reviewing the key processes.” (Quality Unit Manager)

“The IC’s organisational objective is to develop its services through implementing the quality concept. There is cooperation between the management, staff and the quality deanship to improve the services through settings the IC’s desired objectives and working hard to achieve these objectives. The procedures to achieve these objectives are clear to everyone in the IC.” (Librarian 5)

According to the interviewees, there was evidence that this IC measured its performance prior to and after achieving the ISO9000. It was found that implementing ISO 9000 supported the IC’s efforts in improving its performance based on the performance indicators, as the Associate Dean for Technical Affairs confirmed:



“There was a clear improvement in the IC performance after applying the quality concept in 2008. The processes in the IC were developed and the number of errors became lower because of good problem solving techniques.”

A systematic technique was found in order to resolve work problem through several stages starting with identifying the problem, analysing data, applying suggested solutions and evaluating these solutions to ensure their effectiveness. An interviewee explained:

“When an error is discovered, the management and the related staff start with collecting and analysing data in order to identify all aspects of the problem. Then a solution is planned and applied based on the analysed data. Finally, we evaluate this solution in order to discover its effects on other processes.” (Associate Dean for Technical Affairs)

The interviewees felt that KAU manages its suppliers effectively, and explained that it had full authority to choose and evaluate its suppliers. The process of choosing the suppliers started with a comparison of suppliers in order to ensure that those chosen are able to meet the IC requirements. The supplier evaluation process began through evaluating suppliers' performance and whether or not such suppliers were able to contribute and help the IC to provide and develop services. The IC Managers involved themselves and empowered staff in the process of supplier evaluation according to standardised criteria. This process started from the lower levels, due to the managers' belief that lower levels of staff were able to conduct this process more than the senior managers. Two interviewees said:

“The suppliers are chosen and evaluated by the staff and the management... It is group work involving different managerial levels to ensure that the supplier can meet the IC’s needs.” (Library Manager)

“Choosing and evaluating the supplier starts from bottom to top... the managers believe that the staff members are able to carry out these processes more than them [managers] because we are the individuals who deal with the suppliers directly.” (Librarian 1)

Regarding the sharing of information, it was discovered that the management emphasised the importance of sharing information with different administrative levels through different means, including group discussions, computer networking, and monthly bulletins to ensure that all individuals in the IC had access to the performance measurement results. This system of sharing information assisted in creating an appropriate work environment and involved different administrative levels in the decision-making process, based on reliable and solid data. This approach of sharing information ensured the full participation of staff in management activities. Three interviewees confirmed this:

“The managers ensure that the information is available to all staff members in order to improve the decision-making in each unit.” (Librarian 2)

“Data are available for any member works in this IC. Sharing data may give the staff a sense of how their efforts helped the IC to improve the IC performance and to ensure the highest level of cooperation between different units in the IC.” (Associate Dean for Administrative Affairs)

“Several approaches are in place in order to ensure communication between us [staff] and the managers such as newsletters and open meetings. These enable the staff to meet and discuss various issues with their managers directly.” (Assistant Librarian 3)

The interviewees were asked about the extent to which teamwork is applied in their IC. It was discovered that teamwork was widely used; teams were usually formed by managers and the staff were encouraged to participate in such teams, in order to increase the quality of services. Two interviewees said:

“Teamwork is the centre of our daily work. The services with high quality that we provide cannot be achieved without teamwork.” (Librarian 3)

“Each staff member has the same opportunity to be a member in such teams based on their skills and bias is unacceptable. As managers, we are keen on using teamwork across units to transfer the experience amongst staff and to save time and effort.” (Dean)

Each member of the workforce in the IC had a clear and specific job description to avoid overlapping responsibilities. These responsibilities were identified based on different factors, namely the nature of the work, individuals' abilities and positions. In addition, the jobs were described according to international standards to increase staff productivity. Such factors facilitated management in selecting the right staff member for a specific position and created a balance in distributing the workforce. Two interviewees commented:

“Our job description helps us to focus on set of identified tasks to ensure that the job was done as it should be. The managers assign the staff members for specific tasks based on their positions, abilities and the nature of the task.” (Librarian 1)

“The job description is well-written according to international standards and the staff members know their responsibilities to ensure the workflow between different units.” (Librarian 3)

“The management use the job description to identify the errors in the processes and who is responsible for these errors.” (Assistant Librarian 2)

#### **7.4.2 Management Behaviour**

The interviewees were asked about the IC senior management’s behaviour and the extent to which management supported efforts to achieve service improvements. All the interviewees spoke of the vital role played by the management in improving services and emphasised that the ISO 9000 certificate could not have been achieved without management support and long-term commitment to quality. It was clear that management supported staff empowerment and involved all staff in the quality process by allowing them to participate and evaluate the services as well as the quality initiative. It was found that the management created an appropriate work environment and established a culture of quality through focusing on the principles of TQM and ensuring that these principles were understood by the individuals working in the IC. The staff interviewees highlighted the managers’ role in marketing the quality

principles amongst staff through meetings, workshops and quality training programmes. Two interviewees said:

“Changing the IC traditional management system to total quality management culture took a great amount of time and effort from management members and they succeeded. The managers’ commitment was an essential factor in our success to achieve ISO 9000 certificate.” (Librarian 3)

“The ISO 9000 certificate could not be achieved without the managers’ commitment and support. The managers conducted several sessions to introduce quality principles to all staff members in the IC and the quality issues are still present in the IC nowadays” (Librarian 1)

Leadership skills were evident in these managers as a result of their long experience in managing the IC, and through their personal desire to be leaders and not only managers, according to staff interviewees. The interviewees highlighted the managers’ commitment to quality, as well as their ability to communicate quality techniques, set long-term plans, and create an organisational culture that was in line with TQM principles. Two interviewees said:

“Due to their long experience in managing the IC, the managers have a clear vision, objectives and long-term plans to develop the IC performance. They [managers] are able to communicate, create goals and values to the staff to meet the organisation’s direction and the requirements of performance improvement.” (Librarian 5)

“I believe that the managers manage the IC based on the performance indicators and users’ needs. They were working hard to follow the quality process until the IC became known as a quality organisation.” (Assistant Librarian 2)

The managers had a belief in the staff and their skills in improving the services. As a result, these staff participated actively in the management activities, including setting the organisational goals and making decisions. The managers emphasised marketing quality principles, including a mission statement, amongst the workforce due to their confidence in the importance of spreading quality culture in the IC. The mission statement was a result of teamwork based on organisational objectives. The following quotations describe the mission statement and how the IC marketed it:

“The mission statement and objectives were developed based on the organisational goals to reflect the quality processes and to define users of the IC. The management communicated the mission statement and objectives to all staff members and they were used as a guideline.” (Librarian 4)

“The mission statement was developed by the managers and staff in order to ensure that every staff member shares the IC values and goals. This mission statement is used to define the quality values and expectations.” (Dean)

“I remembered that a team was formed in order to develop the mission statement and objective of the IC including two managers and four staff members. I participated in that team and it was worth the effort.” (Librarian 2)

“We [staff] are satisfied with the level of our participation, recognition and empowerment.” (Librarian 1)

“The management system in our IC allows us to be a part of the management cycle through involving us in the decision-making process and planning”  
(Librarian 3).

Interviewees were asked about the managers’ role in setting future plans. It was discovered that planning was undertaken at different administrative levels to ensure that future steps were carefully designed and understood by staff. Members of staff were involved in planning for the IC, starting from setting future goals, identifying available resources and predicting future actions. The planning process involved identifying users’ needs, available resources, and how the IC could use its available resources to meet the users’ needs and increase their satisfaction. It also included assessing the IC services and what should be done in order to improve the performance based on the available human and financial resources. Meetings between the management and lower administrative levels were the first step to developing future short or long-term plans. In addition, such meetings created an appropriate atmosphere of creativity and productivity amongst staff. Three interviewees confirmed:

“The IC management focuses on setting the IC directions through identifying the users’ needs and develop services based on these needs. It also involves carrying out evaluation processes to assess our services and if they need any modification or improvement.” (Dean)

“The IC continuously makes plans on short and long-term plans to ensure the continuous improvement and to avoid any potential failure in providing the services. This includes risk analysis, what the IC objectives are and how the IC develops its services.” (Quality Unit Manager)

“The Dean conducts frequent meetings with the head of departments and sometimes with staff to achieve a common understanding of the strategic planning. The strategic options were discussed with all administrative levels to help the staff in developing their planning skills within their units.” (Library Manager)

Regarding staff participation in the management cycle, interviewees were asked to what extent the management support staff participation in making decisions. The interviewees reported that the management changed the organisational culture by supporting staff participation in management activities. The management gave staff the opportunity to be trained in different skills, including planning, problem-solving and resource management. These staff had the authority to decide the work methods based on user needs and available resources. This conclusion was supported by quotes from two interviewees:

“Involving staff in the decision-making process required changing the IC practice and culture, which took time and effort. I believe we can say that the staff are fully involved in each management activity in the IC.” (Quality Unit Manager)

“The communication between the different administrative levels has created a good environment to participate in managing the IC. The management opened the door to us [staff] to be active participants in the daily activities and to decide how the work should be done.” (Librarian 5)



### 7.4.3 User Focus

The interviewees were asked about the efforts made by the IC to ensure that the users were satisfied. They were also asked about the extent to which users are viewed as important to the IC. It was found that KAU management demonstrated its commitment to service improvement to achieve a high level of user satisfaction through designing and delivering services according to user requirements. The interviewees highlighted the efforts made by the management in measuring user satisfaction on a regular basis in order to obtain updated results of user satisfaction and to identify any weaknesses in the service that need to be addressed. The interviewees stressed that the results of this measurement indicated that users are satisfied, with their satisfaction in an ascending trend every time it was measured. The management utilised the results emerging from these measurements in planning for the ICs and developing new services. Two interviewees said:

“The users’ satisfaction is one of our highest priorities. The management believes that the IC will not be successful unless the users are satisfied. Our users’ satisfaction is measured annually to give us enough time to assess and improve our services. The last time this was measured was six months ago, and the results were encouraging.” (Quality Unit Manager)

“We usually use several approaches such as surveys on a regular basis to measure the users’ satisfaction and the results are discussed in meetings between the management and staff to develop future plans based on these results.” (Dean)

The interviewees were asked about the efforts made by the IC to deal with and resolve user complaints. It was found that the IC had an effective complaint system for this

purpose, which was highlighted by interviewees as an indicator of management's commitment to maintain and increase user satisfaction. The management allowed the front line staff to receive and resolve the complaints to give the process of customer service more flexibility. Two interviewees stated:

“The frontline staff are authorised and able to deal with these complaints in order to avoid the centralised procedures or delays in dealing with these complaints.”  
(Library Manager)

“Our complaint system enables us [managers] to identify the weakest points in our procedures to be resolved as soon as possible. The rate of the users' complaints has decreased sharply in the last few years because of good problem-solving techniques and improvements in our processes.” (Quality Unit Manager)

Regarding communication with users, KAU built strong and stable communications with users through different means, such as email, phone or in-person. Two managers confirmed:

“Our users are welcome to discuss anything they want with us at any time. There are no barriers between the IC and the users” (The Associate Dean for Administrative Affairs)

“An open day is conducted several times a year to allow the users to come and tell us what they expect from the IC and if they have suggestions. Also, different means are available to facilitate communication between the IC and users, such as email, phone, suggestions link and direct conversations.” (Dean)

The interviewees indicated that KAU had an active role to play in the academic community and city societies through conducting various activities in order to serve these communities. These activities were provided to fit with the social and academic responsibilities of the university towards society. Two interviewees said:

“Our IC has strong relationships with community representatives and local organisations as well as other academic or non-academic information organisations inside and outside Saudi Arabia. The IC follows the university’s policy in improving the educational process and serving the academic society.”  
(Library Manager)

“Various activities have been provided to the academic and city communities such as books fairs, lectures and cooperation programmes with other organisations. The IC is an active participant in linking schools pupils and the university by carrying out introduction sessions for these pupils about the IC and its role in the university.” (Librarian 4)

### **7.4.4 Staff**

Interviewees were asked about staff-related issues, including the extent to which they felt satisfied, as well as the factors affecting their satisfaction. Firstly, the interviewees frequently highlighted the relationship between professional awareness and success in service improvement, as it was felt that non-professionals were less able to improve the services than were professionals. It was also found that non-professionals were convinced that their abilities in terms of improving services could not be compared with

the abilities available in professionals. These non-professionals are responsible for clerical and administrative tasks only. Two interviewees confirmed:

“Based on 15 years’ experience in this IC, the professionals are more capable than the non-professionals in providing and improving the services due to several factors. The non-professionals’ specialisations and their own perception of working in a library prevent them from participating in improving the services. Unfortunately, most of the non-professionals were forced to work in a library as they were unable to find another job.” (Dean)

“As a non-professional, I can say that we are not as good as the professionals, especially when talking about the services improvement. We are not specialised in LIS and we are responsible for the administrative tasks and to complement the professionals’ work only.” (Assistant Librarian 2)

The interviewees showed that members of staff were dissatisfied with the lack of training. They felt that the university did not take the initiative to provide internal programmes for the IC staff, which influenced staff satisfaction. Several interviewees explained:

“The staff satisfaction was measured five months ago and the results were high except one main issue: low number of the training programmes” (Quality Unit Manager)

“We [staff] are satisfied with the level of our participation, recognition and empowerment. We know that the managers have nothing to do with the staff

development issues, but they need to search for other options and resources to support the staff development.” (Librarian 1)

“The staff development issue is the university administration’s responsibility as it has the final decision. The university should take the initiative and allocate more budgets to train its staff within the university and at least dispense partially with relying on IPA.” (Assistant Librarian 4)

“The 40 year old Civil Service System is unable to meet staff development needs. Besides, the number of staff and their needs has increased rapidly in the last decade, which confirms the urgent need to develop this system. Unfortunately, we have to follow this old system.” (Dean)

Interviewees were asked how they were rewarded for their work. Those interviewed agreed that the ICs came under MOHE regulation that prevents financial rewards, except for the monthly salary. In an attempt to overcome this obstacle, the IC managers employed overtime as a way of rewarding staff financially. In addition, it was established that the most common form of reward was the motivation of morale, which had a good impact on staff. Two interviewees stated:

“Overtime is used as a form of rewards... It is not officially applied but it is very common within the university community, where the managers are not allowed to provide the financial reward.” (Dean)

“Appreciation letters and recognition are common procedures within the IC to reward the staff on their achievements. The motivation of morale works very well,

where most of the staff members look at it as an important personal achievement.”

(Assistant Librarian 3)

#### ***7.4.5 Summary of KAU***

In KAU, five managers were interviewed individually and nine staff members were interviewed in a group. KAU was the first and the only Saudi IC that gained the ISO 9000 certificate in 2008 and a positive perception was found amongst the interviewees towards the quality practices in their IC. Management changed the organisational culture and reduced the staff resistance to change. The managers were committed to quality. The participative management style was the main factor in encouraging staff participation in service improvement.

Staff empowerment was identified as one of the main factors in the success of this IC in improving services and increasing staff satisfaction. There were indicators that process management was carried out effectively and that services were designed and delivered based on the users' needs. Professional awareness on different administrative levels was a success factor in improving the services; the professionals had the skills and abilities to be more active in efforts at service improvement than non-professionals. Teamwork was highlighted as a common approach to conduct tasks, indicating the efforts made by IC management to avoid individualism. Staff participation was encouraged, as there was a trust between the management and lower levels. Strategic planning was a process that involved managers and staff from different levels. Job description was evident, indicating the management's awareness in identifying responsibilities to avoid overlapping between individuals. Performance measurement

was on the managers' agenda, showing their interest in identifying weaknesses in performance.

A common agreement was found amongst the interviewees that users were satisfied with IC services due to efforts that had been made to improve services to meet the users' needs. The managers' awareness of the importance of solving user complaints in a short time led to the establishment of an effective complaints system. Members of staff were satisfied with their participation, empowerment and motivation; however, they were dissatisfied with training. The quantity and quality of training programmes provided to staff were low, due to the parent institution's policy and the training programmes provider that provides only a limited number of training sessions.

### 7.5 KFUPM

KFUPM was established in 1963 as the first Saudi university specialising in Engineering and Petroleum studies. KFUPM has two male sites and one female site: the IC located in the main campus has full responsibility in all managerial and technical processes and the IC at the female site is responsible for providing circulation and references services only. Due to the fact that all the courses in the university are presented in English, more than 90 per cent of the collection is in English. This thus required staff with a high level of English skills. The number of managers in KFUPM is lower than in KSU and KAU, due to the low number of IC staff and users. The Dean had a PhD in Computer Science and the other two managers were specialised in LIS: the Associate Dean had a PhD and the Library Manager had a Master's degree. All the three managers agreed to be interviewed individually. In addition, four librarians and four assistant librarians agreed

to be interviewed in a group. All the librarians had bachelor degrees in LIS; two of the assistant librarians had bachelor degrees in management and English; and two assistant librarians had a diploma degree in Business and Arts. The position of Quality Unit Manager was not evident in this IC, and the Associate Dean was responsible for quality issues. This IC had a less complicated structure than some others as there was only one Associate Dean, as shown in Figure 7.3.

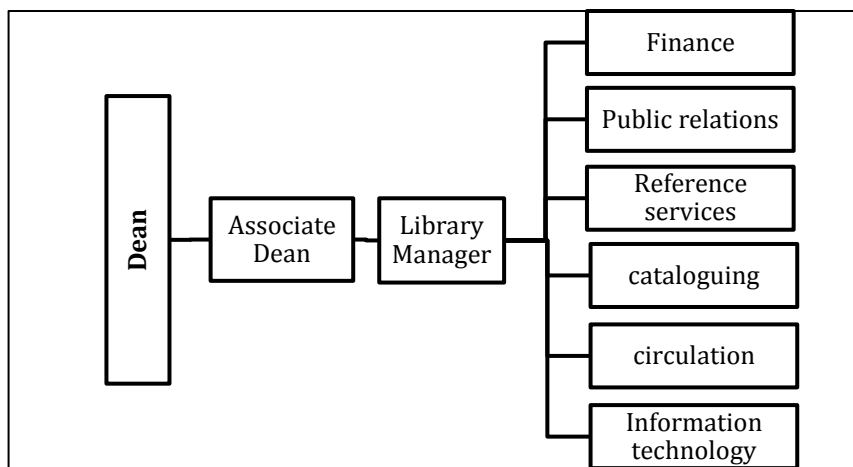


Figure 7.3: KFUPM hierarchical structure

### 7.5.1 Process Management

The interviewees were asked about how processes are managed in their IC, as well as the extent to which the IC designs its services based on user needs. The interviewees explained that the processes were defined and designed effectively through several procedures. The organisational culture in KFUPM supported independence in process management: each unit within the IC was able to manage its functions based on its needs; these processes were aligned with the IC direction. The IC designed its processes according to some standards of American Library Association (ALA) that fit with IC



requirements and needs. These approaches gave the IC the opportunity to build an effective system to design and evaluate services and measure performance. Several interviewees' supported the previous statements:

“We focus on implementing the international standards through our strong connections with ALA to improve our services. Also we work closely with the quality deanship in the university to assess and develop processes inside the IC.”

(Associate Dean)

“The most benefit from managing our processes is to know how the work tasks are carried out and to identify the level of our performance in order to avoid errors. Each unit manages its own processes according to the ALA standards. This independence enables the management to organise and link the units to each other without affecting the work.” (Dean)

“To raise its efficiency, the IC reviews and develops all processes to ensure that all processes work competitively to meet users' needs. All processes within each unit are monitored closely to identify any change that may happen in any process.”

(Library Manager)

There was a strong agreement amongst the interviewees that achieving a quality award is not an indicator of high quality services. The interviewees believed that the quality journey is a continuous process that does not end with the finish line. It was discovered that KFUPM was one of the active ICs in Saudi Arabia that took several initiatives to improve its services, including implementing new information technology and an open work environment. As seen in KSU and KAU, professional awareness was highlighted as

an important factor in relation to staff, regarding service improvement efforts. Several interviewees confirmed the following view:

“Having a quality award is not our goal... having a quality award does not necessarily mean that your services are well-designed and well-managed. Our goal is to provide high quality services through identifying errors in our processes and fixing these errors as soon as possible. We gained a good result based on the NCAAA report [National Commission for Academic Accreditation and Assessment].” (Associate Dean)

“I believe that the quality of services can be reached by having professionals involved, due to their ability in providing services with high quality.” (Library Manager)

“Our IC leads the Saudi ICs in providing new services. For example, we were the first in using information technology such as databases and automated circulation. Also, we took serious steps to ensure that the IC objectives have been achieved effectively through focusing on the performance of every employee, unit or even the IC performance as whole to design and provide better services.” (Dean)

This IC measured its performance on a regular basis in order to avoid errors. The interviewees highlighted their problem-solving technique as an effective approach to identifying weaknesses in performance. This technique relies on identifying the problem followed by searching for the best solution. Measuring the performance continuously enabled the IC to face challenges on reliable data. Two interviewees commented:

“We measure our performance at the end of each academic year to discover our achievement on a long-term basis and to build our work on actual data. We also measure our success after providing a new service which gives us feedback from our users... When errors in a service are discovered, we urgently solve them. If there is no error, we think seriously how to improve this service... it is a continuous process.” (Dean)

“This [problem-solving] technique helps the management and us [staff] in providing services with high level of quality. Our users are the main player in this issue by their help in identifying the problem.” (Librarian 2)

The interviewees were asked how the IC managed the suppliers and to what extent its efforts in evaluating the suppliers were effective. The interviewees explained that supplier management is an internal task, where staff and managers work in groups and participate in evaluating the suppliers, according to IC requirements. Supplier evaluation was a bottom to top process: staff evaluated suppliers independently and their decisions were respected by the management. Two interviewees commented:

“We [staff] manage these teams by ourselves and the managers respect our decisions. These teams are responsible for assessing the suppliers based on the IC’s needs.” (Assistant Librarian 2)

“The members of these teams are authorised to make decisions... staff are capable to deal with the suppliers more than us [managers] due to their professionalism and their close relationships with work procedures.” (Dean)

The interviewees were asked about their perceptions about the sharing of information between management and lower administrative levels. It was found that information was shared between the different managerial levels through different means, such as the IC website and electronic newsletters. The information is usually used in the decision-making process, as an interviewee stated:

“All information about the performance and our users’ needs that we need to make our decisions is available in the monthly newsletters. These newsletters also provide information about the new activities in LIS sector, whether nationally or internationally. These newsletters are accessible easily through the IC intranet.”

(Assistant Librarian 1)

Regarding teamwork, the interviewees attributed the high quality of services available in the IC to employing teamwork in each process, which improved outcomes and increased staff knowledge and experience. The organisational culture promoted teamwork, as stated by two interviewees:

“The managers always asked us to work in groups to minimise the errors and the staff preferred this approach to carry out different tasks.” (Assistant Librarian 3)

“Teamwork is the best approach to carry out tasks in a service organisation... when you put different people with different abilities and personalities together to achieve a desired goal, you actually combined their strength to overcome weaknesses and enhance the communication between the staff. The individuals will be complementing each other.” (Associate Dean)

KFUPM follows international standards in describing jobs, to ensure identifying responsibilities. All individuals in the IC were aware of their responsibilities and each job was carried out based on the staff members' abilities and qualifications. Two interviewees stated:

“We use the ALA job descriptions to ensure the appropriate distribution of staff and functional tasks based on international standards and the employees' skills.”  
(Library Manager)

“We [staff] know exactly what we have to do because of identifying the responsibilities, which dramatically reduces the overlap of powers and the loss of functions between staff.” (Assistant Librarian 1)

The managers participated in developing the mission statement and objectives to be aligned with the university policy. The IC mission statement and objectives were designed and developed, based on international standards and other international IC experiences. Two interviewees said:

“We designed our objectives to fit with the ALA standards and we benefited from other library experiences, such as American and British libraries. Also, we did not ignore the university policy and cultural differences between the Saudi society and other societies.” (Associate Dean)

“I remember that I was a member of a team to design the IC objectives and mission statement. Working in a group enabled me and other members to reach a comprehensive view about what the IC should be and what the desired objectives are.” (Librarian 4)

### 7.5.2 Management Behaviour

The interviewees were asked to what extent senior management activities helped in improving services. In addition, the interviewees were asked to what extent management was committed to the quality concept. The interviewees expressed the view that the management commitment to improve services was the main factor in the success of the IC in providing a service of high quality. It was also found that this commitment to improve services distinguished the IC from other units in the university, where two interviewees stated:

“The IC management gained the highest award amongst the university, called the *Effective Management Award* in 2010 as a reflection of the managers’ commitment to improve the services.” (Librarian 4)

“Our priority is to improve the available services and develop new services... our IC always occupies the forefront of Saudi academic libraries due to the long-term commitment by individuals working in the IC, whether managers or staff, to improve work effectiveness.” (Dean)

In addition, the interviewees highlighted the importance of having professional management on service improvement. There was a widely held belief in the IC about the relationship between the managers’ LIS specialisation and success in the service improvement initiative. According to the interviewees, the managers with LIS backgrounds were able to understand the IC context more than non-LIS specialised managers. Two staff interviewees said:

“I want to add that we would not achieve what we have achieved without a professional management. They [professional managers] understand what the library needs and how to improve the processes effectively.” (Assistant Librarian 3)

“The managers’ long experience is the main factor in our success in improving the services. Their [managers] management skills and problem-solving techniques were developed over the years, when the IC was still small and provided limited services. Now, everything is different because of the efforts of these managers in building a new IC.” (Librarian 1)

The interviewees pointed out that planning was carried out across the different managerial levels in order to develop accurate plans that reflect the IC’s mission. Members of staff in each unit were responsible for planning for their unit, as the managers had confidence that the employees were able to plan independently with limited supervision from management. The planning process was a joint process to ensure full participation by staff in management activities. Two interviewees stated:

“Staff in each unit plan and manage their units independently. Also, employees participate in planning for the IC. Actually, I support staff participation as I believe that the IC cannot be managed individually.” (Dean)

“We fully participate in management activities as this has been a common approach in the IC for many years. We are involved in planning and service improvement. The managers and us [staff] believe that the most important thing is improving the services regardless of any individuals’ desires.” (Assistant Librarian 1)

In addition, leadership skills were evident in managers, indicating that they were able to contribute to supporting service improvement initiatives. It was revealed that these managers were convinced that the concept of quality had a key role in providing services with high levels of quality. A librarian stated that:

“Our IC is managed by high skilled leaders who can plan, communicate and manage the IC based on actual data. They also have a clear vision about how the library should be and are able to manage the processes and staff in an efficient manner due to their commitment to quality as the main objective.” (Librarian 3)

### **7.5.3 User Focus**

The interviewees were asked about the importance of the users to their IC and what these users meant to it. It was discovered that a user-oriented concept was applied and it was considered an indicator of IC success in providing services with high levels of quality. There was agreement amongst the interviewees that the users' satisfaction was an ascending trend due to the efforts made by the IC to identify users' needs and developing services based on these needs. Service evaluation is a continuous process, which reflects the interest amongst managers in maintaining user satisfaction at a high level. One aspect of interest in user satisfaction is that the IC developed and provided training sessions for students at the beginning of each academic year to train these users in how to use the IC's facilities and to achieve the maximum utilisation of IC services. Several interviewees confirmed:



“We are trying to give more time to our users and their needs through finding new approaches to communicate with them, building relationships with them and ensuring that the information is exchanged between the IC and the users. Our services are evaluated by these users and they are satisfied, I believe.” (Dean)

“A special training programme is provided to the users at the beginning of each academic year in order to train them in how to use IC services. Also, we conduct several seminars to introduce and train the users on the new services. The users are at the centre of our efforts and their satisfaction is increasing.” (Librarian 1)

“Users’ satisfaction increases every time we measure it. For example; we conducted a survey amongst the users last year and the results were better than the previous year... this year, the results were better than the last year, and so on.” (Librarian 2)

“Increasing users’ satisfaction reflects the IC interest in improving the services. I believe that we have many things to do to satisfy our users and we are working on that.” (Library Manager)

The IC invited users to provide suggestions that might help in providing services. The IC established a complaints system that worked as a mediator between the users and the IC, as it was responsible for receiving the complaint and transferring it directly to the unit concerned with the complaint, which was responsible for resolving the complaint as soon as possible.

It was also found that IC management was keen on building stable and permanent relationships with users through forming a group called “Library Friends”, which

consists of some academic staff, IC staff members and a number of users. Several interviewees said:

“This system aims to transfer each complaint to the relevant unit to be solved as soon as possible. As the manager of the library, it is my responsibility to ensure that these complaints are resolved immediately and confidentially.” (Library Manager)

“The users’ satisfaction is our main objective... for that, we [managers] focus on removing any barriers between the IC and the users and we encourage the staff to do so.” (Associate Dean)

“As a member of the library friends group, I can confirm that the relationship with the users is stable and strong, where this group focuses on promoting the IC services in the academic society through benefiting from the users themselves. Everyone in the university is welcome.” (Librarian 2)

#### **7.5.4 Staff**

The interviewees were asked about staff-related issues and their satisfaction levels. The interviewees highlighted the role of professional awareness amongst the staff in improving the services in terms of creativity and understanding the IC context. There was an agreement amongst the interviewees that the professional staff have better knowledge and background to deal with issues in the IC in terms of service improvement efforts. Some interviewees confirmed:

“When talking about the services improvement, it is not fair to compare the professionals with non-professionals’ role in this issue. It is specialisation’s issue, nothing else.” (Associate Dean)

“All of us [non-professionals] stand in the second line after the professionals who, based on their background, are capable of improving the work procedures more than us.” (Assistant Librarian 1)

In terms of staff satisfaction, it was apparent that members of staff were satisfied due to several factors, including training, empowerment and involvement. Regarding training, the IC invested in staff through providing internal training sessions to professionals and non-professionals, including quality issues. These internal training sessions were designed based on the IC’s needs and provided by highly qualified staff members in the IC. The IC focused on evaluating these sessions, taking into consideration the trainees’ perceptions of them in order to achieve the highest level of efficiency. Two interviewees stated:

“These training programmes made this IC an active participant in developing Saudi LIS staff skills. The well-designed training programmes encouraged library staff from other Saudi libraries to enrol in these programmes.” (Librarian 3)

“We design our training programmes by identifying the actual training needs in the Saudi LIS sector... including quality. The decision to continue providing these programmes or develop them is conditional to the trainees’ evaluation after finishing each training programme.” (Associate Dean)

The interviewees mentioned the limited number of promotional opportunities caused by the Civil Service System and university policy. However, the interviewees in KFUPM believed that the situation in their IC was acceptable compared to other ICs in Saudi Arabia, as they felt that the main factor for the absence of delay in promotion was due to the low number of staff working in the IC, as indicated in the quote below:

“The promotion opportunities are not a serious problem for us [staff]... because the number of staff is not as big as in other university libraries. The employees usually get promoted in a short period without waiting for a long time.” (Librarian 2)

Regarding staff participation, it was found that the managers’ trust in staff abilities increased the level of staff participation in managing the IC, including decision-making and problem-solving processes. The participative management style adopted by the management was the main reason for having an appropriate environment that encouraged creativity and increased staff involvement. This management style enabled each unit to be independent in carrying out its tasks, reflecting the freedom given to staff to decide how the work should be done. Two interviewees said:

“We are encouraged to manage our units independently, which released us from the centralised system. Also we cooperate with managers to solve problems and to manage the IC, as we work as a team.” (Librarian 4)

“Our employees work with us [managers] to manage the IC and we do not want our library to be a bureaucratic organisation. We implement teamwork as a management approach to avoid duplication and delay in the work.” (Associate Dean)

Managers utilised rewards to motivate staff to improve work procedures and to increase staff enthusiasm, which in turn increased their satisfaction. The motivation of morale was the usual method employed to express appreciation of staff achievements, such as appreciation letters and honouring staff in a ceremony at the IC level. Financial rewards were not given, as the KFUPM is governed by the policy of the MOHE. Other widely used approaches to reward the staff were overtime and attending internal training sessions. An interviewee said:

“The common perception in the IC towards the rewards is one of two, overtime or attending training programmes. There is no other form of reward and I understand that it is the Higher Education Ministry policy.” (Librarian 2)

### **7.5.5 Summary of KFUPM**

In KFUPM, three managers were interviewed individually; four librarians and four assistant librarians were interviewed in a group. Overall, the interviewees' responses were positive regarding the quality of services, indicating that the organisational culture in this IC was aligned with TQM. It was found that the services were designed and provided based on user needs. There was a common awareness amongst the interviewees regarding the importance of improving services and designing processes to meet user needs. The interviewees' perception of quality was not limited to achieving a quality award only, but went further viewing it as a continuous process to provide high quality services to increase the effectiveness and productivity of the IC.

The management's commitment to services improvement played an essential role in improving the services. The management had participated in creating a quality environment in the IC, where staff participation and motivation were encouraged and supported. Professional awareness was highlighted as an important factor in raising the ability of staff to improve services. A user-oriented framework was established, indicating that user satisfaction was improving and being maintained at a high level, due to the efforts made by the IC to meet user requirements.

This IC put emphasis on improving staff skills through taking the initiative to train its staff internally and reduce dependency on the parent institution in developing staff skills. The limited number of staff in this IC assisted in decreasing the number of staff who deserved, but had to wait for, promotion.

### 7.6 Discussion of Qualitative Findings

From the qualitative findings presented in this chapter, it can be concluded that these three ICs were different in their implementations of TQM. This indicates the absence of a standardised and comprehensive quality initiative in the Saudi higher education system.

KSU did not create a culture that accepted TQM, and the management was not committed to quality principles. The autocratic management style lacked staff empowerment and participation. On the other hand, KAU and KFUPM transformed their organisational culture to be aligned with the quality concept. The managers in KAU and KFUPM were committed to quality as expressed through their emphasis on improving

the services in order to increase their ICs' productivity. The participative management style in these two ICs allowed staff empowerment and pushed the decision-making process to lower levels, which in turn improved outcomes.

A user-oriented framework was not established in KSU, which in turn reduced user satisfaction. The relationship between KSU and its users was limited, with a clear absence of an effective complaint system. KAU and KFUPM, on the other hand, were user-oriented ICs, where the service improvement initiative was designed and conducted based on user demands.

Regarding training, it was found that KSU and KAU did not provide adequate training sessions for their staff, which in turn decreased staff satisfaction and limited their contribution to service improvement. KFUPM designed and provided internal training sessions, including quality, which in turn stimulated an increase in staff satisfaction and contributed to the quality initiative.

### **Summary**

This chapter revealed the results which emerged from the qualitative data analysis that focused on three university ICs, KSU, KAU and KFUPM. It can be concluded that these three ICs are different in applying the concept of quality, suggesting that there are different levels of TQM applications in Saudi ICs. KSU did not implement TQM and most of the services were not designed based on the user needs. The quality culture was not established and the managers' commitment to quality was limited. A user-oriented

framework was not implemented, which in turn reduced the IC's productivity. The lack of training reduced staff satisfaction and enthusiasm in improving services.

Several quality factors were evident in KAU including senior management commitment, quality culture, process management, user-oriented framework, planning, staff satisfaction and empowerment.

KFUPM established a strong quality infrastructure and created an organisational culture that supported quality to provide high-quality services. Providing internal training sessions led to an increase in staff satisfaction, improvement in services and an increase in the IC's efficiency.

This chapter answers the second research question regarding the differences in quality management practices between selected Saudi ICs. The results indicated three possible levels of TQM applications, where KSU is at a low level, KAU is at a medium level and KFUPM is at a high level.

According to the design of this research, the qualitative results presented in this chapter and the quantitative results presented in Chapter Six should be compared and integrated in order to provide a deeper understanding of the research problem. Chapter Eight triangulates these two sets of findings and provides a discussion of the findings.



## CHAPTER EIGHT: DISCUSSION

### Introduction

This chapter provides a discussion of the research findings introduced in Chapter Six and Chapter Seven, and integrates these findings with the TQM literature in Saudi, Arab and international contexts to identify the research contribution. The first section discusses the TQM elements in the Saudi ICs; the second section presents a benchmarking tool to assist LIS organisations to identify their achievements in the quality journey; and the final section provides a set of critical success factors for the application of TQM in Saudi ICs.

### 8.1. TQM Elements in Saudi ICs

The first research question was addressed in Chapter Six, and the second research question was addressed in Chapter Seven. This section provides an answer to the third research question:

*Q3: What are the main elements of TQM in the Saudi ICs?*

This study established that there are different levels of TQM applications. The difference between these levels lies in the extent to which the IC implemented quality elements, namely quality culture, management commitment, professional awareness, staff

empowerment, training, teamwork, user focus, process management and quality unit. The full application of these elements indicates the implementation of an effective quality initiative. In cases of partial application, most but not all of these elements were implemented; in cases of low application, these elements were not implemented. The quality elements are discussed in the following sections.

### **8.1.1. Quality Culture**

The availability of a quality culture within the organisation is an important factor in implementing TQM successfully (Al-Khalifa and Aspinwall, 2000). It is argued that socio-culture factors can be transferred easily into organisations and could affect individuals' behaviours (Qasim, 2006; Twaissi *et al.*, 2009). The LIS literature suggests that the failure of TQM initiatives is not due to failings with the TQM concept, but rather a failure to identify the cultural and structural factors influencing TQM (Adamantidou and Kouri, 2000; Moghaddam and Moballeghi, 2008).

The quantitative data showed that the participants from KSU felt that the culture in their IC was ineffective and lacked acceptance of the quality principles (section 6.2.1). In other words, an appropriate environment that was aligned with quality concept was not established. The qualitative findings confirmed the quantitative results and showed that the organisational culture in KSU did not promote a clear understanding of TQM, and that the quality principles were not understood clearly by those in the lower administrative levels. In addition, the management of KSU did not share their vision of quality implementation with others, as an interviewee explained:

“The managers never communicated the mission statement or the vision to all levels...” (Librarian 2, KSU)

The qualitative findings indicated that members of staff in KSU faced excessive layers of management that they had to negotiate if they needed help, and that there was a considerable degree of centralisation in the decision-making process (see sections 7.3.2 and 7.3.4).

The quantitative results showed that a system of communication between administrative levels and within the employee cohort was, in general, developed in the ICs under investigation (section 6.2.3). However, KSU was an exception to this: the results showed that the participants from this IC felt that an effective communication system had not been established in their institution. The qualitative findings supported this conclusion and showed that communication between staff and managers in KSU was limited because the IC management was not specialised in LIS (section 7.3.2).

The current study has shown that, in the case of KSU, socio-cultural factors (by which is meant the common culture in the wider society) influence organisational culture (that is, the culture within an organisation). Preoccupation with status and prestige had a negative impact on managers' attitudes and influenced their behaviour in managing the IC, as an interviewee commented:

“Unfortunately, their [managers] high academic degrees and positions prevent them from allowing us to participate in managing the IC.” (Librarian 4, KSU)

The current study has shown that organisational culture is an important factor in the success of the application of TQM, as the creation of a culture consistent with quality

results in the reduction or eradication of staff resistance to changes in the management system. The study also found that some socio-cultural factors could harm efforts in service improvement, which finding is in agreement with the findings of Twaissi *et al.* (2009) who investigated the implementation of TQM in the Jordanian Information and Communications Technology (ICT) sector and discovered a direct relationship between socio-cultural factors and failure in TQM application. It is also in line with Qasim (2006), who examined Saudi senior managers' attitudes and management styles, and found that some were influenced by socio-cultural factors and did not accept feedback or suggestions from lower levels due to their own high status in their organisations. However, this goes against the findings of Ali (1997) who found no relationship between socio-cultural factors in Middle Eastern countries and failure in TQM applications.

### **8.1.2. Management Commitment**

Leadership is central to the successful implementation of quality management as TQM requires management commitment, vision, communication, and leadership skills (Deming, 1986). Deming (1986) and Juran (1974) referred the majority of the obstacles associated with quality to the senior management.

The quantitative results showed that, according to the participants' answers, all the ICs had committed leaders who were able to guide the efforts of service improvement (section 6.2.1). The current management styles used in five out of six ICs reflected the managers' desire to empower staff to contribute to service improvement. However, these results also showed that the participants from KSU felt that their managers were

not committed and that they did not display leadership skills. KSU was an exceptional case, as the management system and the organisational culture did not promote leadership or a long-term commitment to quality (see section 8.1.1). The lack of commitment among the managers in KSU could, it was felt, impact negatively on the quality of services and on efforts in service improvement, as one interviewee stated:

“Our management is not fully convinced in the quality principles. They [managers] were enthusiastic only because the university administration was interested in the quality concept. Now, everybody has forgotten about it.” (Assistant Librarian 3)

KSU managers adopted an autocratic management style and they had full authority to make decisions. Some high-status individuals in Saudi Arabia do not like to be equal with their staff and their awareness of their social status prevents them from accepting criticism or feedback from staff working at lower levels (see Section 7.1.1). The managers in KSU were considered to lack an understanding of the concept of TQM and the importance of staff involvement and empowerment.

In contrast, it was found that the managers in KAU and KFUPM were committed to quality and aware of leadership aspects. It can be argued that managers in KAU and KFUPM challenged the stereotypical image of Saudi managers through being committed to quality and adopting participative management styles. It is in part this commitment that had led KAU to become an ISO 9000 organisation, as confirmed by an interviewee:

“The ISO 9000 cannot be achieved without the managers’ commitment and support.” (Librarian 1, KAU)

This study has shown that managers' commitment to quality and participative management style led to the success of the TQM application. This finding is in agreement with the findings of Coyle-Shapiro (1999) that showed that a long-term commitment from management leads to the successful implementation of TQM. In addition, it is in line with the work of Al-Khalifa and Aspinwall (2001) in Qatar, who identified a relationship between the lack of management commitment and the ineffectiveness of TQM applications. However, the early findings of this study do not support the previous research of Al-Madi (2005), Assalim (2010) and Qasim (2006), all of whom argued that some managers in Middle Eastern organisations were not committed to quality and lacked of leadership skills.

### ***8.1.3. Professional Awareness***

Professional awareness in this research refers to manager and staff specialisation in LIS that enables them to be aware of the requirements of LIS organisations. In Saudi LIS literature, the role of professionals has been identified as one of the most important factors in providing services with high quality (Abbas, 2005; Alhaddad, 2003). The common concept in Saudi is that LIS professionals should be responsible for LIS functions and that non-professionals are responsible for supporting professionals and for carrying out clerical works only (Alqoublan, 2010). Professional awareness was identified as one of the elements of TQM in the Saudi ICs, based on both qualitative and quantitative findings. Professional awareness was evident in the quality literature in the Saudi LIS sector; for example, Abbas (2005); Alhaddad (2003) and Alqoublan (2010).

According to previous studies, professional awareness was one of the characteristics of the Saudi LIS sector, which made the researcher consider this issue here.

According to the quantitative data, participants felt that their ICs did not put enough emphasis on recruiting highly skilled employees (section 6.2.3). This result was supported by the qualitative findings, which showed that the lack of professional awareness among IC managers and some staff in KSU led to a breakdown in communication and to administrative conflict between managers and staff at lower administrative levels (7.3.2). It was shown that the LIS-specialised managers in KAU and KFUPM were more effective in their efforts to improve services than were the non-LIS specialised management in KSU; their background in LIS enabled them to understand the LIS context (7.4.2 and 7.5.2). The following quotes illustrate the contrast between KAU, KFUPM and KSU:

“Due to their specialisation in LIS and experience, the managers have a clear vision, objectives and long-term plans to develop the IC performance.” (Librarian 5, KAU)

“The IC management gained the highest award amongst the university, called the *Effective Management Award* in 2010 as a reflection of the managers’ commitment to improve the services.” (Librarian 4, KFUPM)

The administrative conflicts between the managers and lower administrative levels:

“... this caused many problems... they [managers] do not understand us.” (Librarian 3, KSU)

LIS professional staff were more effective in participating in service improvement efforts than non-professionals. A non-professional interviewee stated:

“As a non-professional, I can say that we are not as good as the professionals, especially when talking about services improvement. We are not specialised in LIS and we are responsible for administrative tasks and to complement professionals’ work only” (Assistant Librarian 2, KAU)

The quantitative results in section 6.1.7 show that the majority of staff in KAU had an LIS background more than KSU and KFUPM, where 67 per cent of participants were LIS professionals. The qualitative findings in Chapter Seven indicated that staff with an LIS background in KAU and KFUPM were more involved in the quality journey than were the staff of KSU who had an LIS-background. It can be argued that managers’ willingness to delegate their authorities to lower levels was the main reason for the involvement of professional staff in service improvement efforts.

This study found that staff professional awareness plays an essential role in implementing TQM and understanding the LIS context. This result corroborates Gerolimos and Konsta (2008) who, in their investigation of 200 job advertisements for Librarians in the UK, USA, Canada, and Australia, found that a degree in LIS was the most important requirement for hiring librarians in these countries. Moreover, this study agrees in part with Choi and Rasmussen (2009), who investigated job advertisements for digital library positions in College and Research Libraries News from 1999 to 2007, and found that skills to establish digital library projects were required, such as information technology, web page design and Internet searching. They also emphasised the importance of LIS qualifications in the hiring of librarians. The findings of this study are in contrast to those of Yang *et al.* (2012), who examined online librarian employment advertisements posted in China in 2010 and found that subject



knowledge, information technology and communication skills were essential skills for such positions.

#### ***8.1.4. Staff Empowerment***

Staff empowerment is a key factor in achieving organisational transition to a quality culture (Baidoun, 2004; Stewart and Waddell, 2003). In the LIS sector, it has been recommended that IC managers should maintain the process of staff empowerment, and make resources available to staff in order that they can contribute to the service improvement process (Brophy and Coulling, 1996; O'Neil, 1994; Rowley, 1996; Pilling, 1997).

The quantitative results showed that employees' empowerment and autonomy were not encouraged by the managers in KSU, although empowerment was promoted in the other five ICs (section 6.2.1). This result was supported by the qualitative findings that showed that the interviewees felt that the autocratic management style in KSU was an obstacle to staff empowerment (section 7.3.4). The lack of staff empowerment in KSU was a consequence of a lack of trust in staff by managers:

“The staff are not trained and are too inexperienced to make important decisions...they can make decisions within their departments, but only after receiving our approval, because we [managers] are responsible for decisions”. (Dean, KSU)

In contrast, the participative management style in KAU and KFUPM encouraged staff empowerment (sections 7.4.4 and 7.5.4), as stated by two interviewees:

“We [staff] are satisfied with the level of our participation, recognition and empowerment.” (Librarian 1, KAU)

“The management opened the door to us [staff] to be active participants in the daily activities and to decide how the work should be done.” (Librarian 5, KFUPM).

The current study found a positive correlation between staff empowerment and the management style in the IC, where staff empowerment increases with the implementation of a participative management style. The participative management style encourages staff empowerment and creates an open work environment, whilst an autocratic management style limits staff empowerment and decreases trust between senior management and staff. This result corroborates the result of Ahire *et al.* (1996), who found that staff empowerment shaped the TQM environment through allowing staff to make decisions related to quality. Studies that investigated different types of organisations in various Arab countries found that some organisations in Arab countries were characterised by lack of empowerment, low levels of trust between staff and management, and that the decision-making process was not pushed to lower levels (Alghamdi, 2011; Al-Madi, 2005; Alqoublan, 2005).

### **8.1.5. Training**

Training is an effective resource for individual and collective development (Thomas, 2003; Varma *et al.*, 2008). Adapting a new management theory within organisations needs to be aligned with continuous training and education schemes (Vouzias and Psychogios, 2007). Oakland (2003) argued that training should be a continuous process

to shift the organisations' culture and reduce the individuals' resistance to change, and facilitate the acceptance of a new management style.

The apparent lack of effective and long-term training schemes might have contributed to the limited implementation of TQM in Saudi ICs' (see sections 6.2.3, 6.2.7, 7.3.4 and 7.4.4). Participants in the quantitative phase of the study reported dissatisfaction regarding training (6.2.3 and 6.2.7). This result complemented the qualitative findings about the lack of training provided to staff (sections 7.3.4 and 7.4.4). The qualitative findings indicate that both the quantity and quality of training programmes in KSU and KAU were limited, which resulted in staff dissatisfaction about this issue, as stated by two interviewees:

“The current training programmes are not sufficient and below our expectations.”

(Librarian 3, KSU)

“Staff satisfaction was measured five months ago and the results were high, except for two main issues: the low numbers of training programmes and promotion opportunities.” (Quality Manager, KAU)

A possible explanation for the situation in KAU might be the lack of managers' enthusiasm to provide a continuous training scheme after achieving the ISO 9000 award. In contrast, KFUPM took the initiative and continued to provide a continuous training scheme, including quality, which helped it to create a culture that accepted quality principles and increased staff satisfaction as a result.

The current study shows that continuous quality training is an important element in implementing TQM as it reduces staff resistance to the implementation of a new

management method. The failure to provide a continuous quality training scheme may affect the quality improvement initiative. There is a positive correlation between lack of training and staff dissatisfaction. These results are in line with Salaheldin (2009), who surveyed 200 manufacturing firms in the Egyptian industrial context in order to identify critical success factors in implementing TQM in developing countries, and found that training made an important contribution to reducing employees' resistance to change. Moreover, it mirrors the findings of Aloqla (2005) and Altayyar (2009), who investigated staff-related issues in Saudi university ICs and concluded that lack of training was the main cause of staff dissatisfaction in Saudi LIS organisations. A survey of postgraduate students in KFUPM to investigate their satisfaction with IC services, found that user satisfaction with the services provided was positively affected by the quantity and quality of training programmes provided to staff, suggesting a positive correlation between training programmes, quality of service and user satisfaction (Alomran, 2010). The findings in KAU regarding the lack of continuous training schemes corroborates the findings of Al-Madi (2005), who identified the lack of continuous quality training as one of the main barriers to the successful transition to TQM facing the ISO 9000 certified manufacturing companies in Jordan.

### **8.1.6. Teamwork**

Teamwork throughout the organisation is an important component for achieving full application of TQM. The ability to build trust, improve communications and enrich staff experience and knowledge are the main advantages of implementing teamwork as a method for conducting work tasks (Oakland, 2004). It also helps in involving staff in

management activities to avoid centralisation in decision-making and planning processes (Abbas, 2005; Evans and Lindsay, 2011).

The quantitative results (reported in section 6.2.3), which were confirmed by the qualitative findings (reported in sections 7.4.1 and 7.5.1) indicated that teamwork was common practice, and was applied widely in KAU and KFUPM. However, the qualitative findings also showed that teamwork was not a common practice in KSU (section 7.3.1): teamwork was used in KSU on the unit level only and was not evident at the IC level; this led to an increase in individualism, which in turn affected the efforts towards service improvement. Managers' bias in choosing team members was one of the reasons that the members of staff were not satisfied, where an interviewee stated:

“The management usually focus on three or four employees to be members in teams, and I believe that is not fair at all. All of us should have the same opportunity to be members in these teams.” (Librarian 5, KSU).

In contrast, the managers in KAU and KFUPM created a cooperative work environment through teamwork. These managers involved themselves with staff, which facilitated communication between administrative levels (see sections 7.4.1 and 7.5.2). Two interviewees confirmed:

“Teamwork is the centre in our daily work. The services with high quality that we provide cannot be achieved without teamwork.” (Librarian 3, KAU)

“We implement teamwork as a management approach to avoid duplication and delay in the work.” (Associate Dean, KFUPM)

This study found that teamwork was one of the critical success factors of TQM in the Saudi university ICs. The quality culture played a crucial role in encouraging teamwork as a method for conducting tasks in units or IC levels. It can be argued that a quality initiative is more effective if staff are involved in teams; it develops their skills and enriches their experience in decision-making and problem-solving techniques, which in turn increases the organisations' productivity and effectiveness.

The previous result is in line with Wang (2006) who provided a comparative analysis of TQM in the LIS context and found that teamwork was important for the successful implementation of TQM. This finding is also in agreement with the findings of Flynn *et al.* (1994) who established that teamwork enriches staff experiences and avoids centralism in decision-making and problem-solving processes. It is also in line with Kamada (2002), who discussed the impact of teamwork on organisational changes in services in university libraries in the University of Arizona, and argued that teamwork helped organisations to improve their processes and services and meet user needs.

### **8.1.7. User Focus**

The user in the IC is the centre of any initiative to improve services and an IC's efficiency is measured by the level of user satisfaction (Wang, 2006). The importance of users is referred to in terms of their role in assessing the overall effectiveness of the IC in meeting their needs, as these users are the main party affected by the IC services (Flanagan and Horowitz, 2000).

The quantitative results in sections 6.2.1 and 6.2.2 showed that a user-oriented framework was not evident in KSU and that there was no effective system to identify and resolve users' complaints. The qualitative findings in section 7.3.3 provided an explanation of this result, showing that the interviewees from KSU felt that a commitment to meeting user needs was not evident among their managers. An interviewee confirmed:

“Users’ satisfaction is not on the managers’ agenda as it is rarely discussed.”  
(Librarian2).

On the other hand, the participants from KAU and KFUPM felt that their ICs established a user-oriented framework in order to design services according to user needs. The interviewees in these two ICs emphasised the manager’s role in meeting the user needs through establishing voluntary groups, such as “Library Friends”, to help in building stable and permanent relationships with users and translating their demands into actions. These ICs established effective and flexible complaint systems to improve their response (see Section 7.4.3 and Section 7.5.3). Two interviewees stated:

“Increasing user satisfaction reflects the IC interest in improving services. I believe that we have many things to do to satisfy our users and we are working on that.”  
(Library Manager, KFUPM).

“User satisfaction is one of our highest priorities. Management believes that the IC will not be successful unless the users are satisfied.” (Quality Manager, KAU)

The current study shows that the adoption of a user-oriented framework is one of the main success factors in implementing TQM in the Saudi ICs. Senior management's

commitment to satisfying user needs and the availability of an effective complaints system are amongst the key supporting factors for satisfying users and resolving their complaints. These findings support the work of Sit *et al.* (2009), who investigated the Malaysian public service sector and found that customer focus by managers had a significant and positive association with customer satisfaction. This finding is also in agreement with those of Andreassen (2001), who highlighted the ineffective complaints system as one of the key reasons behind customer dissatisfaction. The results achieved regarding user satisfaction also agree with the findings of Heinrichs *et al.* (2005), who implemented the LibQual scale to examine the relationship between service quality and user satisfaction in the University of Wayne Library and pointed out the relationship between user perception regarding the quality of service and their satisfaction with the services.

### **8.1.8. Process Management**

In order to improve the services within LIS organisations, the process should be well-managed in order to ensure that services of high quality are designed and delivered (Ahire and Dreyfus, 2000). The success of organisations in implementing quality is conditional on a successful determination to improve the core processes (Oakland, 2004). Process management emphasises making processes more valuable, increasing quality, and raising the productivity of staff and the IC.

While the participants from KSU expressed the view that an effective framework to manage and design processes was not established, the participants from the other five ICs indicated their approval of the availability of effective process management



framework in their ICs (6.2.5). Future plans in these five ICs were being developed based on users' needs and the results of performance indicators (sections 6.2.2, 6.2.5 and 6.2.8). These results were confirmed by the qualitative findings, which showed the existence of successful frameworks for managing processes in the five ICs. In the case of KSU, however, the absence of a clear and effective process management initiative and of a long-term commitment among managers was considered to have led to the lack of an effective framework for managing the process (section 7.3.1). An interviewee commented:

“Every process was designed and delivered on an individual basis without a standardised procedure. I think the work is done without using any method of analysing processes.” (IC Dean).

The qualitative findings in sections 7.4.1 and 7.5.1 showed that there was a correlation between the managers' commitment to improving processes and the availability of effective process management frameworks. Two interviewees stated:

“The IC management improves the work procedures to ensure the highest level of quality through reviewing the main processes and analysing data. This can help us to reveal the problems and inefficiencies in our system.” (Library Manager, KAU).

“To raise its efficiency, the IC reviews and develops all processes to ensure that all processes work competitively to meet users' needs.” (Library Manager, KFUPM)

This study has shown that an effective process management framework plays a vital role in designing high quality services to meet user needs. It also showed that effective process management is a crucial component of the effectiveness of TQM

implementation. This finding corroborates the findings of Fotopoulos and Psomas (2009), who surveyed 370 Greek companies to discover the relationships between soft and hard TQM factors and the results of quality management. They identified process management as being beneficial, and as having the capacity to result in the sustainability of these companies. The finding of this study mirrors the findings of Pilling (1997), who described the quality initiative in the British Library Document Supply Centre, and identified process rather than function as one of the major features of TQM relevant to LIS organisations. Moreover, this result is in agreement with the findings of Sinclair (1994), who found that one of the TQM activities to support the management of processes is the identification and mapping of processes.

#### ***8.1.9. Quality Unit***

The quality literature emphasises the quality department or unit as an essential component of the success of the quality initiative and its role appears in quality planning, process control and quality design (Feigenbaum, 1961). Crosby (1967) agreed with Feigenbaum, and further supported the quality professionals' participation in the quality journey. Juran (1974) described the role of the quality unit as essential in coordinating, controlling and providing consultations to guide the process of TQM implementation and to ensure its success.

The results from the quantitative phase of the study found that participants from KSU felt that their managers did not define work methods and organisational processes (section 6.2.5). In addition, these participants felt that there was no comprehensive documentation about organisational processes and quality manuals, and that

organisational processes were not periodically revised. Gelders *et al.* (1993) and Kaur *et al.* (2006) believed that these tasks are the responsibility of the quality unit. The interviewees in the qualitative phase (section 7.3.1) showed the absence of an effective quality unit led by a qualified quality manager affected the quality practices in KSU. On the other hand, the participants from KAU and KFUPM (reported in sections 6.2.5, 7.4.1 and 7.5.1) emphasised the role played by effective quality units in these two ICs in designing the services based on user needs, defining work methods and designing a systematic improvement system. An interviewee confirmed:

“The quality unit works closely with other units to design services with high quality and evaluates these services on a regular basis. This unit is the centre of any efforts made to increase the IC’s productivity.” (Librarian 2, KAU)

This study has shown that the effectiveness of the application of TQM is strongly associated with having in place an effective quality unit, headed by a qualified quality manager to help in designing services, evaluating these services and predicting future plans. Coordination between the quality unit and other units within the IC in designing and providing services will greatly improve the IC’s performance and productivity. This finding mirrors Crosby (1967), Feigenbaum (1961), Juran (1974), Quazi *et al.* (1998); and Saraph *et al.* (1989) who highlighted the vital role played by the quality department as a main factor in implementing TQM. This result also corroborates the findings of Alghamdi (2011) and Alqoubtan (2010), from an investigation into the implementation of the quality concept in several Saudi university ICs, which identified the absence of effective quality units as a barrier to implementing long-term and effective quality initiatives. However, the present finding contradicts those of Albacete-Saez *et al.* (2011),

who investigated Spanish rural accommodation service users to measure the quality of service in tourism lodgings. They minimised the role of the quality unit manager in implementing TQM as they found that that implementation was more effective if it is headed by the general manager.

### ***8.1.10. Closing Remarks***

In summary, it can be concluded that the current study identified several elements that shaped the administrative systems in the Saudi ICs under investigation, including:

- The impact of socio-culture factors on individuals' behaviour within organisations
- Lack of management commitment
- Lack of professional awareness
- Lack of staff empowerment
- Lack of training
- Lack of teamwork
- Lack of a user focus
- Lack of process management
- An absence of effective quality units

It can be seen that the ICs under study varied in their applications of TQM. Table 8.1 shows the quality elements in the three ICs.

Table 8.1: TQM elements in the Saudi ICs

Quality factors	KSU	KAU	KFUPM
Quality Culture	X	✓	✓
Management Commitment	X	✓	✓
Staff Empowerment	X	✓	✓
Training	X	X	✓
Teamwork	X	✓	✓
User focus	X	✓	✓
Process Management	X	✓	✓
Quality Unit	X	✓	✓

( ✓ = Available, X = not available)

Table 8.1 shows that no quality elements were applied in KSU, all quality elements except for training were applied in KAU, and they were fully applied in KFUPM. It can be argued that the most important factors that influenced TQM application in KSU were related to the behaviour of the IC's senior management behaviour, including a lack of leadership and commitment (see section 7.3.2 and 8.1.2). Saraph *et al* (1989) pointed out that the success or failure of TQM implementation is highly associated with leadership. Many TQM gurus such as Deming (1986), Crosby (1980) and Feigenbaum (1986) highlighted the vital role of the commitment and leadership of senior management in the implementation of TQM, and argued that the quality initiative may fail if the management is not committed on a long-term basis.

It was impossible for TQM to have been adopted in KSU as it lacked strong leadership and commitment. KSU senior management did not take on the responsibility of being committed to TQM and to support the efforts necessary to implement it. Leadership is the first criterion in quality awards and models because it is absolutely necessary in order to make implementation successful. KSU managers were not good role models for

their employees, in terms of their commitment to provide high quality services to users. The autocratic management style in this IC impeded the implementation of TQM. The managers were not aware of the important role that their commitment could play in implementing the TQM concept in their IC. Their resistance to change their management style and the fear of losing power reduced their efforts to introduce staff empowerment and participation

The absence of leadership and a long-term commitment to quality among KSU management has led to a number of barriers to the implementation of TQM in this IC including lack of empowerment of staff; lack of teamwork; the absence of a user-oriented framework; the lack of performance measurement, and the lack of an effective framework for process management.

The differences in the application of TQM in Saudi university ICs and the factors associated with its successful application, as discussed earlier, led the researcher to consider the use of benchmarking as a tool to compare an organisation's quality practices with those of other organisations in the same field. As indicated in the review of the literature in Chapter Four, there is a clear absence of benchmarking in the Saudi LIS sector. Thus, it will be beneficial for this study and for the LIS literature to benchmark the applications of TQM in the ICs under study. The next section introduces a benchmarking tool to assist in evaluating quality practices in LIS organisations.

## 8.2. Benchmarking Quality Applications in the Saudi ICs

This section meets one of the research objectives, which is to present a benchmarking tool to assist in evaluating quality practices in the LIS organisations.

Section 4.3.10 of this study discussed benchmarking in LIS and showed the need to validate benchmarking as an assessment tool for the application of TQM in LIS organisations. Moreover, the LIS literature showed that the Quality Maturity Model (QMM) defined strategies for implementing and establishing quality management strategies in LIS organisations (Wilson and Town, 2006). However, QMM was built on the foundations of the administrative system of developed countries, which differ from the Saudi context in terms of administrative systems, organisational structure and cultural values. In addition, QMM does not put emphasis on cultural and social influences on the application of a quality model. The researcher believes that QMM needs to be modified to fit to the Saudi context taking into considerations the characteristics of the Saudi administration, as presented in section 8.1.10.

The proposed maturity model in this study aims to support the Saudi university ICs under investigation in meeting their organisational objectives and providing a guideline on maturing quality practices. The proposed model in this study is an adapted version of the QMM presented by Wilson and Town (2006) to measure the IC services, based on a five-step scale namely *Absent*, *Repeatable*, *Defined*, *Managed* and *Continuous*. Using the same steps in QMM, the proposed model may help in validating the use of QMM to measure the IC services and to present a maturity model to help the Saudi LIS organisation in measuring their services. Each step of this scale has a general description of the quality level with a set of attributes relevant to that level. This

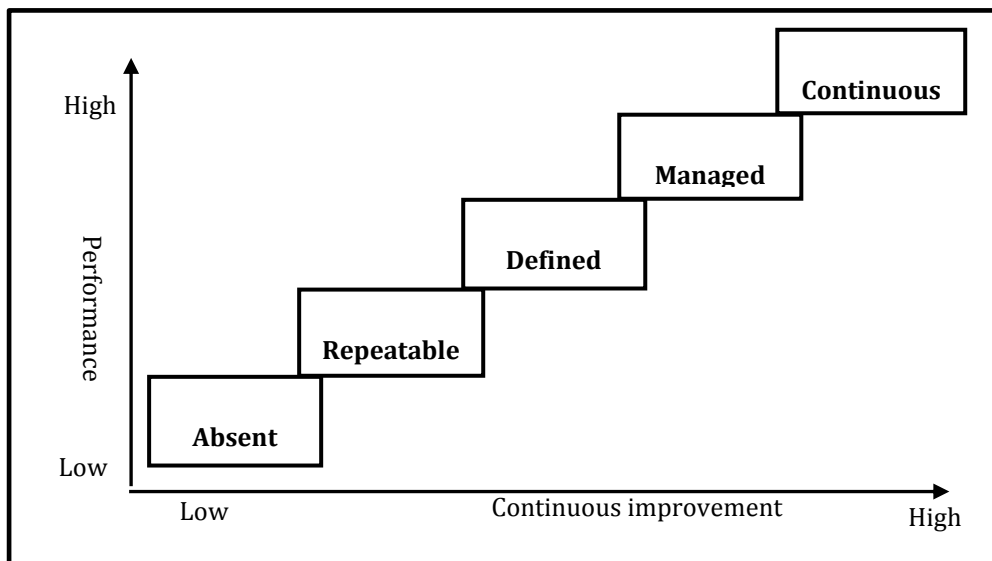
proposed scale places an emphasis on different issues that are not emphasised in QMM including quality culture, management commitment, teamwork, professional awareness and quality responsibility. The steps in the proposed maturity model in this study are built on both QMM and the TQM elements identified in this study (see section 8.1), including: *quality culture, management commitment, professional awareness, staff empowerment, training, teamwork, user focus, process management and quality unit.* Table 8.2 shows the differences between the five levels in the proposed quality maturity model and how the three ICs were assigned to different levels, based on the evidence emerging from this study.



Table 8.2 Differences between the maturity model levels

Measurement categories	Absent	Repeatable	Defined	Managed	Continuous
<b>Quality culture</b>	Not supported and resistance to change is high	Initially established and resistance to change is decreasing	Established and resistance to change is limited	Well-established, understood and no resistance to change	Entire IC is focused on continuous improvement in every services
<b>Management commitment</b>	Absent or superficial	On a short-term basis only	On a long-term basis	Strong leadership and long-term commitment	Strong leadership, long-term commitment and the managers involve themselves in the service improvement efforts
<b>Professional awareness</b>	Not emphasised	Non-professionals can be responsible for LIS tasks	LIS tasks are undertaken by professionals and non-professionals	LIS tasks are the responsibility for LIS professionals only	Highly emphasised, where the managers and staff are LIS professionals
<b>Staff empowerment</b>	Not promoted	Applied for specific tasks on a short-term basis	Applied for specific tasks on a long-term basis	Applied widely on different administrative levels to conduct a wide range of tasks	All staff are encouraged to continuously improve themselves and their work
<b>Training</b>	Not available	For specific tasks only	For specific tasks only and needs assessment	Reactive to events and needs assessment and measurement of effectiveness	Training is continuous and focused on preparing staff for future organisational requirements
<b>Teamwork</b>	Within units only	Across units occasionally	Applied across units for specific tasks only	Teams are promoted within and across units	The management promotes teamwork and all tasks are carried out by teams
<b>User focus</b>	Reactive and unpredictable	Effective management processes to allow the IC to repeat earlier success in user satisfaction.	User-oriented framework is established to improve user satisfaction	User-oriented framework well-established the IC sets quantitative goals for customer satisfaction	The entire IC is focussed on improving every service to improve services and user satisfaction
<b>Process management</b>	Not defined and quality depends on the capabilities of individuals	Basic quality management process are established	Quality management processes are documented, standardised and derive from the organisational strategy	Quality process is measured, controlled and understood	Process management framework is well-established and each process is designed based on the user needs
<b>Quality unit</b>	No one is responsible for quality	Quality is the quality manager's responsibility only	Quality is the managers' responsibility	Quality is the managers' and frontline employees responsibility	Quality of service is everyone's responsibility

Figure 8.1 shows the five level of the proposed quality maturity model.



**Figure 8.1:** The quality maturity model

Based on the results presented in section 8.1, the three ICs under investigation (KSU, KAU and KFUPM) were assigned to three levels of the propose benchmarking tool: Absent, Managed and Continuous respectively. The following sections describe these three levels, their attributes and how the three ICs were assigned to these levels. The evidence gathered from the interviews was mapped against the model.

### **8.2.1. Level 1: Absent**

KSU was an example of the Saudi university IC that was at the absent level, due to its lack of applying the quality principles in full.

Quality practices in the IC at this level are lacking and there is no comprehensive initiative to implement any method of service improvement. At this level, the IC's organisational culture is not ready to implement TQM and the individuals' resistance to change in the management style is high. An interviewee from KSU said:

“Every process is a routine job repeated for years and nobody is allowed to change any procedure.” (Librarian 4)

The quality principles are not well-understood and success depends largely on individuals' skills. Vertical and horizontal communications between administrative levels are not established.

The IC is characterised by administrative complexity. The managers' commitment to quality is superficial or not evident and leadership skills are lacking. An interviewee stated:

“The managers were interested in quality but they are not talking about it now. They were concerned about a long- term commitment.” (Assistant Librarian 5)

Teamwork and empowerment are not encouraged due to the autocratic management style. A framework of managing processes is not evident and the processes are not identified, designed and carried out individually. The quality unit is ineffective in guiding the efforts of service improvement. An interviewee said:

“Every process was designed and delivered on an individual basis without a standardised procedure”. (Dean)

The decision-making process is not built on reliable data with a lack of performance measurement. A user-oriented framework is not evident and the managers' commitment to meeting user needs is superficial or not on a long-term basis.

There is a lack of effective human resources management and training programmes are weak and ineffective. This acute shortage in training influences staff enthusiasm for contributing to the service improvement process, and their turnover is high. An interviewee commented:

“The current training programmes are not sufficient and below our expectations”

(Librarian 3)

In order to pass to the next level, the IC should focus on quality basics in order to initiate a service improvement initiative. The IC should create an organisational culture that is aligned with TQM through providing training sessions to reduce individuals' resistance to change in the management style and to increase their awareness of the quality concept. The IC should implement a management style that encourages staff empowerment and gives them the opportunity to participate in the decision-making process. The managers should show a long-term commitment to quality and to meet the users' needs. Processes should be defined, designed and improved, based on the users' needs. An effective and continuous quality training scheme is required to increase staff efficiency and develop their contribution to the service improvement initiative.

**8.2.2. Level 4: Managed**

In this study, KAU was located at this level as it failed to achieve at least one of the quality principles. KAU did not establish a continuous quality training scheme and so did not meet one of the TQM main requirements. This failure to address the human resource needs impacts upon staff satisfaction, which may reduce staff enthusiasm in participating effectively in quality practices. An interviewee stated:

“The staff satisfaction was measured five months ago and the results were high except one main issue: low number of the training programmes” (Quality Manager)

At this level, elements of quality in the IC are not fully implemented, and some of the quality areas in the IC need to be improved. The IC has several indicators that show that the organisational culture accepts the quality principles and that individuals accept change in the management style, due to the successful efforts made by management to introduce quality principles to all their staff. An interviewee commented:

“Changing the IC traditional management system to total quality management culture took a great amount of time and effort from management members and they succeeded.” (Librarian 3)

The managers are committed, skilled and have a clear vision about how the services should be improved. The IC adopted a management style that encourages staff empowerment, work delegation and communications, as confirmed by an interviewee:

“Due to their long experience in managing the IC, the managers have a clear vision, objectives and long-term plans to develop the IC performance. They [managers]

are able to communicate, create goals and values to the staff to meet the organisation's direction and the requirements of performance improvement.”

(Librarian 5)

The managers' professionalism enables them to understand the IC's requirements in terms of service improvement. An effective quality unit managed by a qualified quality manager develops future plans and designs processes based on the current and future needs of the users. This unit is able to participate actively in developing short-term and long-term future plans, which in turn has a positive impact on developing services and raising the satisfaction levels of users and staff. Staff empowerment and teamwork are widely encouraged by the managers.

The IC established a user-oriented framework to identify factors influencing users' satisfaction and efforts are made to search for new approaches to increase users' satisfaction. One of the interviewees said:

“The users' satisfaction is one of our highest priorities. The management believes that the IC will not be successful unless the users are satisfied.” (Quality Manager)

The IC at this level did not meet at least one of the quality aspects, and thus failed to establish a comprehensive and permanent initiative to improve services. This incomplete quality initiative may lead to a reduction IC efficiency and productivity and may influence its performance.

In order to improve the performance and pass to a higher level, the IC should continue in its efforts to improve services and look for new approaches to increase the IC's

efficiency. The management should show more commitment to service improvement and encourage staff empowerment. Efforts to increase user satisfaction should not slow down, but should be emphasised more. Comprehensive efforts by the management and staff should be made to ensure that all the quality aspects are implemented effectively to improve outcomes. In this study, KAU should put a strong emphasis on providing continuous quality training schemes in order to increase staff satisfaction, which will in turn fulfil the TQM requirements.

### ***8.2.3. Level 5: Continuous***

KFUPM was located at this level due to its success in applying all the quality principles. It should, however, continue in the service improvement process. Being at this level means that the entire IC is focused on continuous improvement in every service and process. The results showed that KFUPM shifted its culture, designing services based on user needs, satisfying staff and improving performance by applying all of the quality principles. The success in applying all of the quality techniques has helped this IC to improve its outcomes and satisfy its users.

At this level, the IC demonstrated quality applications effectively through a comprehensive implementation of the quality techniques in all processes. The management introduced the quality principles, as this concept is well-understood by individuals, which reflects the availability of an organisational culture that is aligned with quality principles. A participative work environment was established, where all work tasks in the IC are carried out by teamwork and communications are encouraged. An interviewee confirmed:

“The managers always asked us to work in groups to minimise the errors and the staff preferred this approach to carry out different tasks.” (Assistant Librarian 3)

The management adopts a management style that encourages and supports staff empowerment participation. The managers’ professional awareness, leadership skills and long-term commitment to quality, result in developing clear and permanent visions of quality improvement. This vision is shared with the administrative levels, indicating the availability of two-way communications between these levels. An interviewee stated:

“We fully participate in management activities as this has been a common approach in the IC since many years ago” (Assistant Librarian 1)

Decisions are made based on several stages, starting with thinking of possible solutions setting time scales; delineation of responsibilities; information collecting; weighing the pros and cons of each action; and finally making decisions. The quality unit is active in designing the processes and documenting every step of the application of TQM. An interviewee commented:

“All information about the performance and our users’ needs that we need to make our decisions is available in the monthly newsletters” (Assistant Librarian 1)

The user is at the top of the IC’s priorities, where all efforts are directed to meeting user needs. The IC emphasises communication with users to create long-term relationships on a strong basis. The efforts made by the IC to improve user satisfaction are continuous, reflecting the availability of well-established user-oriented framework. The



IC developed an effective complaints system to resolve any user complaints, which result in increased user satisfaction and loyalty to the IC. One of the interviewees stated:

“Users’ satisfaction increases every time we measure it. For example; we conducted a survey amongst the users last year and the results were better than the previous year... this year, the results were better than the last year, and so on.”

(Librarian 2)

Training is a priority of the IC management; staff are highly trained and their knowledge is updated. The IC designs and provides training sessions, including quality, to improve staff skills and enable them to participate in the service improvement initiative effectively. The IC should maintain the efforts of service improvement in an ascending trend and search for new methods to increase its productivity and effectiveness. The evidence shows:

“We design our training programmes by identifying the actual training needs in the Saudi LIS sector... including quality” (Associate Dean)

The differences between these three levels revealed that there are several factors, if applied effectively and comprehensively, that can guarantee a full and effective TQM application. In other words, these factors identify what needs to be emphasised in order to achieve a high level of TQM implementation in the ICs under investigation. These factors were identified in the literature of TQM as critical success factors (see Chapter Four). The next section provides a set of critical success factors that have emerged from this study, in order to provide the Saudi LIS organisations with a framework to achieve an effective and comprehensive implementation of TQM.

### 8.3. Critical Success Factors in Implementing TQM in Saudi ICs

Due to the importance of critical success factors in the organisations' efforts to improve their efficiency and productivity, it is essential to provide Saudi ICs with a set of important areas that need more emphasis in order to achieve an effective application of TQM. This section answers the fourth research question, which is:

*Q4: What are the critical success factors in implementing TQM in Saudi ICs?*

By comparing the research findings of this study with the previous empirical studies discussed in Chapter Four, it can be seen that twelve critical success factors for implementing TQM that emerged from reviewing the literature (Chapter Four) were validated by this study. Saudi ICs should emphasise the areas presented in the following sections in order to increase their productivity, improve performance and satisfy users and staff. These critical success factors should be treated as one package: to ignore even one of these factors may lead to failure of the quality initiative. The critical success factors in implementing TQM in the Saudi university ICs are:

1. Quality Culture
2. Management Commitment
3. Professional Awareness
4. Staff Empowerment
5. Training
6. Teamwork
7. User Focus
8. Process Management
9. Performance Measurement

10. Cycle
11. Integration with the Parent Organisation
12. Quality unit

### ***8.3.1. Factor 1: Quality Culture***

The TQM literature focuses on the importance of the transition of organisational culture in order to apply TQM successfully. This literature discussed in section 4.4.1 shows where TQM has been ineffective, the cause has been the management's failure to address socio-cultural factors that may affect individual behaviours (Oakland, 2004). Moghaddam and Moballeghi (2008) indicated that the quality initiative might be affected if the IC fails to change the organisational culture so that it is aligned with TQM and fails to reduce individual resistance to change.

To avoid any resistance to change amongst individuals, the IC's management should initiate a training scheme, prior to implementing the quality concept, directed at all staff members to introduce the philosophy of TQM, its benefits, and contributions to the IC. The quality culture needs to be embedded into daily activities within the organisation to ensure that all tasks have zero-defects, and are always carried out properly. In this current study, KAU and KFUPM changed their organisational culture to be aligned with the principles of quality by providing staff with intensive training schemes to increase their awareness of the importance of quality and what it offers to the IC, regarding services improvement.

### ***8.3.2. Factor 2: Management Commitment***

Quality experts have emphasised the role of management as one of the most important factors in implementing TQM in any organisation and have stressed that a quality initiative will fail if the management fails to show a long-term commitment to quality (Crosby, 1984; Deming, 1986; Kanji, 2002; O'Neil, 1994). The pursuit of TQM requires the IC management to think and act differently and start to translate its commitment to the quality concept into actions to improve the IC's productivity. The managers must recognise the obstacles preventing the transformation of the IC culture and search for new possible approaches to overcome these obstacles. The management should ensure that the quality concept is integrated into the daily activities in each unit within the IC in order to achieve better outcomes and increase overall productivity.

In order to implement TQM effectively, the managers should develop a vision, mission and specific values for the IC to follow. The management's involvement should be demonstrated by behaviour, not just by declarations of the quality initiative. Managers are responsible for leading the process of cultural transition to alignment with quality, practising leadership and removing staff resistance to change (Dale, 1999).

The results of this study indicate that senior managers in KAU and KFUPM showed a strong and long-term commitment to quality, reflecting their desire to improve services and satisfy users. Managers introduced themselves to the staff as leaders who were able to plan and make decisions effectively. The managers were convinced that TQM was the right course to follow in order to increase the ICs' productivity and efficiency. They created open and cooperative work environments and implemented management styles that support staff involvement, empowerment and work delegation.

***8.3.3. Factor 3: Professional Awareness***

A LIS qualification has been identified in the literature as one of the basic requirements for hiring librarians (Gerolimos and Konsta, 2008). Ashcroft (2004) added other skills including communications and information technology. Another study put another requirement, suggesting that the LIS organisations required librarians to have a Master's degree in LIS (Kwasik, 2002). The ICs must focus on hiring highly skilled professional staff members in order to enrich the outcomes.

This study found that professional awareness is an important feature that should be embedded in managers and staff in the Saudi university ICs. The managers' LIS professionalism in KAU and KFUPM was a success factor in implementing TQM, as they were able to have a clear vision about the IC and how to improve its services. The importance of professionalism in the Saudi LIS context is indisputable; there was agreement amongst the participants in this study on the importance of the professional management of LIS. This concept is slightly different from the common Western understanding of LIS management that does not require a professional LIS management, but an effective management that is able to guide the efforts to improve services in libraries, despite specialisation. This difference between the Western and Saudi understanding of the requirements of LIS management shows differences between these two cultures regarding specialisation and its role in management actions and styles.

In addition, this study showed that professional librarians were able to make a greater contribution to implementing TQM than non-professionals, due to their understanding and awareness of service improvement in the LIS context. Assalim (2010) pointed out

that the common concept in the Saudi LIS context is that the primary requirement in hiring staff is having a qualification in LIS.

#### ***8.3.4. Factor 4: Staff Empowerment***

In the quality literature, the TQM organisation needs a committed workforce that is involved in service improvement (Irani *et al*, 2004). This involvement should be reinforced by rewards and recognition for the staff achievement of quality objectives. The IC managers should encourage staff to take responsibility for service improvement and be more creative in their response to customer needs. Staff involvement should be characterised by sharing power, rewards, knowledge and sharing information. The IC senior management should direct active involvement of employees to the vision, values and quality goals of the IC to meet its expectation. Members of staff need to be aware of the TQM concepts, and trained to improve interactive skills, to have problem identification and solving skills, as well as technical skills. Staff need to be informed about the quality initiative and participate in the improvement activities through top-down and bottom-up communication.

In the current study, the managers in KAU and KFUPM implemented a participative management style that has led to an increase in staff empowerment and contributions to efforts in service improvement (see Section 8.1.4). Staff in these two ICs had the authority to make decisions regarding several tasks and delegated work, which increased staff satisfaction and the IC's productivity. On the other hand, staff in KSU showed their dissatisfaction, as they were not empowered, which decreased their commitment and loyalty to the IC.

***8.3.5. Factor 5: Training***

Training is defined in the literature as a systematic programme to develop e individuals' skills, understanding, knowledge and attitudes in order to improve their performance in doing work tasks. The training needs in ICs should be identified to determine which training programmes are needed and for whom. Continuous training schemes should be provided for staff and should focus on meeting user needs, communication, problem solving, service improvement and teamwork. Training programmes have a positive impact on staff skills and participation in increasing the organisation's productivity. Training is the first step towards change, due to its ability to minimise individuals' resistance to change in management style. Through training, the IC management helps to increase staff awareness of the quality concept and how this management concept is the right approach for service improvement. Moreover, it is important that quality training programmes should be provided to managers to enrich their knowledge of quality tools and techniques, which in turn will be beneficial to the quality initiative.

In this study, the absence of a continuous quality training scheme in KSU and KAU led to an increase in staff dissatisfaction and impacted upon their participation in improving the quality of services (see Section 8.1.5). Limited staff awareness of quality tools and techniques in KSU was correlated with a lack of quality training. In KAU, the lack the managers' commitment to provide continuous training schemes contributed to reducing staff satisfaction and enthusiasm to improve services. On the other hand, KFUPM developed and provided a continuous quality training scheme. These training schemes focused on various aspects of quality, including problem-solving techniques, decision-

making and teamwork (see Section 7.5.4), which in turn had a positive impact on the staff satisfaction and the quality of services.

### ***8.3.6. Factor 6: Teamwork***

Teamwork should be encouraged by the Saudi IC managers in order to enrich the work environment and enhance staff experience and knowledge. Applying teamwork widely within the IC has a positive impact on staff satisfaction. Tasks across units should be carried out by teamwork to increase staff awareness of problem-solving techniques and collaborative efforts to improve overall outcomes. In turn, teamwork provides a forum for interaction between team members, organising roles and having the capacity for a quick response to changes in user needs.

In this study, the participants from KSU felt that teamwork was not a common practice in their IC to conduct tasks, which increased individualism and affected the quality of services (see Section 6.2.3 and 7.3.1). On the other hand, KAU and KFUPM applied teamwork as the main approach to conducting work tasks, which in turn improved service quality and enhanced employees' experience. Teamwork enabled these two ICs to reduce time, effort and costs in designing and providing services, which gave these ICs the opportunity to develop new services to increase user satisfaction (see sections 7.4.1 and 7.5.1).



**8.3.7. Factor 7: User Focus**

In the philosophy of TQM, there is an increased emphasis on judging quality, based on customer feedback and satisfaction with the services provided (Ahire *et al.*, 1996; Powell, 1995). User satisfaction is the driving force for an IC to improve its performance. Abbas (2002) and Alomran (2010) emphasised user satisfaction as the main objective behind implementing TQM. The efforts of service improvement will not be valid and effective if they fail to increase user satisfaction. ICs management must understand, identify and predict user needs in order to be more effective in their efforts to increase user satisfaction. A user-oriented framework should be implemented, where each process or service is designed, developed and delivered according to the users' needs and expectations.

This study showed that KAU and KFUPM implement user-oriented frameworks that enabled these ICs to discover new strategies for service improvement; understand user needs; identify reasons behind users' dissatisfaction; and discover new problem-solving techniques to increase the IC's effectiveness in serving users (see Section 8.1.7). The user-oriented framework was ineffective in KSU and the managers were only superficially committed to meeting users' needs, which in turn had a negative impact on the TQM application.

**8.3.8. Factor 8: Process Management**

Process management involves adding value to processes, improving the level of quality and raising staff productivity. It also requires analysing these processes to avoid errors

and inefficiencies in the organisation's performance (Deming, 1986). According to Deming (1986), managing process aims to assist the organisation to understand how the processes are carried out and to discover how to resolve problems in order to increase productivity. An effective process management framework helps ICs to reduce the time needed to provide services, improve quality and increase user and staff satisfaction; all these factors are able to ensure the IC's effectiveness in providing services with high quality. This framework should include process development, process control, process improvement, and continuous improvement. Process management should be guided by measurement and analysis toward the achievement of key organisational performance results and strategic objectives.

In this study, the services in KAU and KFUPM were designed systematically based on user needs. These two ICs evaluated their processes based on user feedback. An effective complaints system in each IC assisted them to identify weaknesses in the processes that needed to be improved (see Section 8.1.8). It was found that there was a relationship between having an effective process management framework and the success of KAU and KFUPM in designing their services with high quality. On the other hand, the absence of a systematic approach to designing, managing and improving core processes is a possible explanation for the lack of TQM implementation in KSU.

### ***8.3.9. Factor 9: Performance Measurement***

The continuous evaluation process and the measuring of IC performance are important elements in developing services. Identifying the points of weakness in performance is the first step in the resolution of problems. Drawing comparisons with those ICs that

provide outstanding services with those that give a poor service enables the identification of the crucial factors needed that would benefit both the ICs and users. Several approaches can be used to measure the ICs' performance such as measuring the extent to which the stated goals are attained and how inputs are converted into outputs. In addition, performance can be measured by identifying how the ICs meet user needs and expectations. The IC performances need to be compared against one of the quality standards and models such as ISO 9000 or the EFQM Excellence Model in order to identify the gaps in performance.

In this study, there was no evidence that KSU had a performance measurement framework to assess its services with other LIS organisations. The organisational culture in KSU did not promote performance measurement to identify weaknesses in its performance. On the other hand, KAU assessed its performance against one of the quality standards, ISO 9000 (section 7.4.1). KFUPM assessed its services according to the ALA Standards (section 7.5.1), which helped this IC in improving its internal processes, advancing its role as a partner in educating students, and achieving its parent institution's mission. KAU and KFUPM IC developed services based on performance measurement indicators, which in turn may increase their productivity (see Sections 7.4.1. and 7.5.1).

### ***8.3.10. Factor 10: Cycle***

The PDCA cycle introduced by Deming (1986) is an approach for continuous improvement, and he made it an integral part of the quality movement. It is a model for service improvement and an approach to finding causes of variation in performance

(See Figure 3.1). The PDCA cycle is made up of four main components: to plan, to do, to check and to carry out action. These components can be explained as follows:

- Plan: study current situation and develop changes for improvement.
- Do: pilot measures on a trial basis.
- Check: examine effect of changes to see if the desired result is achieved.
- Action: standardise on a permanent basis (Bond, 1999).

The PDCA cycle needs to be applied in the Saudi university ICs in order to achieve continuous improvement. This cycle must be applied in all processes making it an integral part of the quality initiative. Once the stages in the PDCA cycle have been completed, the cycle should start again for continuous improvement.

In this study, there was an agreement among the participants in the ICs under study regarding the availability of a framework of continuous improvement (see section 6.2.1). However, there is a contradiction between this result and the qualitative findings that showed KSU did not have a framework of continuous improvement to plan, design, evaluate the services and take actions. On the other hand, KAU and KFUPM established a framework of setting long-term plans, identifying resources and predicting future actions. In KAU and KFUPM (sections 7.4 and 7.5), the “plan” involved studying the current situation, during which facts are gathered to be used in formulating suitable actions to improve quality. The “do” phase involved developing a potential solution. The “check” phase involved measuring how effective the solution was, and analysing whether it could be improved. Finally, the “act” phase was used to standardise methods so that new procedures introduced became continuous actions.

**8.3.11. Factor 11: Integration with Parent Organisation**

The university ICs follow their broader organisation's policies, as they were established to serve users. Therefore, these ICs need to set their services and functions according to the requirements of the universities. ICs should be involved in their broader organisations' quality initiative to become fully integrated into the functioning of the organisation. Brockman (1992) believed that LIS organisations that have implemented TQM fall into two main groups: those whose parent organisations have adopted TQM and that are required to follow the parent organisations' policy; and those which are implementing TQM unilaterally on their own initiative. He also stressed that there are misconceptions regarding TQM. The word "total" refers of course to "management", and not to "quality". This leads to the argument that TQM can only be implemented across an entire university, and not to an individual unit, such as an IC. The Saudi ICs need to follow their parent organisations' quality initiative in order to be consistent

In this study, integration with the broader organisation was not evident in KSU IC, suggesting that it was managed autonomously; the lack of support from the parent organisation might have affected the TQM initiative (see section 7.3). The quality unit in KSU did not fulfil its role in terms of developing the IC's services based on the university mission. On the other hand, KAU and KFUPM were consistent with their broader organisation in implementing TQM. The quality units in these two ICs were active in working closely with the quality deanships within their parent organisations in order to develop and improve the IC services according to the broader organisations' missions. There was evidence that the quality initiatives in KAU and KFUPM were university-led initiatives and that efforts had been made by the ICs to follow their broader

organisations' policy in their implementation of quality concept (see sections 7.4 and 7.5).

***8.3.12. Factor 12: Quality Unit***

The term “quality unit” refers to a specific unit within an organisation, and its objective is to oversee the stages of applying the quality agenda starting with planning, measurement and maintaining quality at a high level. An effective quality unit should be managed by a qualified manager with a background in LIS and quality, in order to work closely with the senior managers and other units within the IC to guide the application of TQM and design services based on user needs (Alghamdi, 2011; Alqoublan, 2010).

The findings of this study indicate that quality units in KAU and KFUPM played a vital role in the success of the application of TQM. However, KSU was not a quality organisation because of the absence of an effective quality unit in planning and implementing the quality concept, which was detrimental to the quality initiative in that IC. The quality units that were managed by qualified quality managers in KAU and KFUPM were essential to the success of TQM implementation.

**Summary**

This chapter has discussed the research findings presented in Chapters Six and Seven. It can be seen that the quantitative and qualitative findings have met the objectives of this

study by identifying the current applications of quality in Saudi ICs. They also answered the research questions presented in Chapter One.

The quality elements in Saudi ICs are quality culture, management commitment, professional awareness, staff empowerment, training, teamwork, user focus, process management and quality unit. It was found that the Saudi ICs implemented TQM at different levels. This result led to the development of a maturity model consisting of three levels: absent, medium and continuous. The ICs in this study illustrated TQM practices at each level of the maturity model. A set of critical success factors to implement TQM found in the literature were validated in this study of Saudi ICs, concluding with the main aspects of TQM that should be emphasised by the Saudi university IC managements, in order to achieve the full and effective implementation of TQM.

Chapter Nine presents the conclusion of the study, research limitations, research contributions to the body of knowledge, and recommendations for implementing TQM within the Saudi LIS sector. Finally, suggestions are made for future research.

## **CHAPTER NINE: CONCLUSION AND RECOMMENDATIONS**

### **Introduction**

This chapter summarises the research process and provides conclusions and recommendations for improving service quality in Saudi ICs based on the results of this study. It is divided into six sections: the first section presents a brief summary of the thesis to provide the reader with a short reminder of the aims of the study. The second section highlights the research limitations to show the scope of the study in terms of geographical and time considerations. The third section introduces the research contributions to the body of knowledge regarding the applications of TQM in Saudi university ICs. In the fourth section, some suggested recommendations are presented, in the hope that they might help Saudi LIS managers and practitioners to improve the quality of services. The fifth part of the chapter introduces the research implications of the LIS literature and how the benchmarking tool can be deployed more widely. The sixth section presents suggestions for future work in order to contribute to the literature on TQM and LIS.

### **9.1. Thesis Summary**

This study has shown the diversity of the implementation of TQM in Saudi ICs, reflecting the absence of a comprehensive national quality initiative. It was found that the quality



concept was not understood and applied in one IC in the study, namely KSU, resulting in the failure to apply TQM, whilst other ICs had different levels of TQM applications. This study emphasised that TQM elements applied in Saudi ICs are quality culture, management commitment, professional awareness, staff empowerment, training, teamwork, user focus, process management and quality unit (see Section 8.1).

This study found that the Saudi ICs under investigation are located in three different levels of TQM applications, namely absent, managed and continuous (see Section 8.2). KSU is located in the absent level as it did not create an effective initiative of service improvement. In the medium level, KAU applied most of the TQM principles, but did not implement one or more of these principles; that is, it did not provide a continuous quality training scheme, which subsequently affected the application of TQM. Finally, KFUPM implemented the quality principles in all activities, showing a good achievement in implementing TQM, which in turn led to improvements in its services. The different levels of quality application found in the ICs were used as examples to develop a benchmarking tool that consists of five levels, reflecting quality practices in the ICs.

The critical success factors, in terms of implementing TQM found in the literature, were validated in Saudi ICs, based on the research findings, including quality culture, senior management commitment, professional awareness, staff empowerment, training, teamwork, user focus, process management and quality unit (see Section 8.3.). These factors were recognised as critical, owing to their vital role in improving services and performance.

### 9.2. Research Limitations

This study is limited to an investigation of the staff and managers' perspective regarding the applications of TQM in their ICs. Details about the criteria of choosing the research sample were presented in Section 5.8. Users were not investigated due to time and access considerations. In addition, the objective of this study was to investigate the internal processes within Saudi ICs regarding the implementation of TQM, and measuring user satisfaction was not one of the study objectives. Involving users in further research would, however, be beneficial in order to discover their views regarding the quality of services in Saudi university ICs.

The quantitative phase of this study was limited to six Saudi university ICs: KSU, KAU, KFUPM, IU, KFU and UAU. These are pre-1990 ICs that were chosen due to time and distance considerations and to their completed organisational and administrative structures. The quality literature shows that TQM is more appropriate for complete organisations; thus, it was decided to exclude the post-1990 universities from this research because these universities are incomplete in terms of organisational structure and administrative systems. In addition, these universities were all small and newly established and under evaluation during the data collection period because of the reforming and developing programmes imposed by the government. All staff members in the pre-1990 university ICs were surveyed in the quantitative phase. In the qualitative phase, time, distance and access considerations narrowed the research sample to three ICs only, namely KSU, KAU and KFUPM. More details are presented in section 5.5 (Research Sample).

As the researcher is male, female participants were surveyed during the quantitative phase only and excluded from the qualitative phase, due to religious and social considerations in Saudi Arabia that prevent females from interacting directly with males. Nevertheless, it is acknowledged that to have conducted interviews with female staff might have brought about different results. The female staff might have perceived quality in their ICs differently from male staff, which would have enriched the results of the study.

### 9.3. Contribution to Knowledge

This current study provides an original contribution to the body of knowledge of TQM and LIS at both academic and practical levels, as detailed below:

- The current findings add substantially to our understanding of the application of TQM in the Saudi LIS organisations. The study also provides valuable knowledge and guidelines available to these organisations that might help them to overcome obstacles preventing them from successfully implementing TQM. This research can be used as a guideline to implement TQM through assessing the ICs' services and applying the maturity model suggested in this study. This model, when validated, may help Saudi ICs in terms of placing themselves in the quality journey and improving services, taking into consideration the critical success factors presented in Chapter Eight.
- The review of the literature (Chapter Four) adds to a growing body of literature in providing a comprehensive coverage of TQM in general, and of the LIS context in particular, offering useful information on these subjects. In addition, the

review identified the need for more empirical studies. This study integrates and extends the empirical work conducted in the area of TQM.

- The study findings confirm the validity of mixed-methods research in achieving in-depth results (Chapter Five). This study is the first of its kind in implementing this method in the Saudi literature of quality in LIS. Moreover, this study is the first study combining managers and staff in one study in order to investigate quality issues in the Saudi LIS context.
- The quantitative phase of the study contributed to discovering the extent to which quality practices are in place in Saudi ICs. This investigation established that the quality practices were evident in different levels, suggesting diversity in the application of TQM (Chapter Six). The qualitative findings illustrate three levels of TQM application: absent, medium and high (Chapter Seven).
- This study is the first research to use the EFQM Excellence Model in the Saudi LIS context as a tool for data collection. Previous studies in that context implemented LibQual scale to investigate quality practices, such as Abbas (2005), Alqoublan (2010) and Alomran (2010).
- The main contribution of this research is the development of a benchmarking tool for the application of TQM in the Saudi LIS context (Section 8.2). The maturity model in this study consists of five levels, namely *Absent*, *Repeatable*, *Defined*, *Managed* and *Continuous*. Each level has a set of attributes that reflect the quality practices in Saudi ICs. It identifies the steps that should be followed by the IC in order to improve the efficiency of services and to pass to the next level. This model was built on the findings of this study alone and thus needs to be validated in further research.

- The current study confirms previous findings and contributes additional evidence that benchmarking in LIS organisations is potentially beneficial, both academically and professionally. Academically, the objective of the proposed model is to address other researchers' attention to the neglected domain of the context of this research. Professionally, Saudi IC managers will have a practical model to use to assess IC achievement in the full implementation of TQM, and to determine what should be done in order to improve ICs' performance.
- The empirical findings in this study provide a new understanding of the critical success factors in implementing TQM in the Saudi LIS context (Section 8.3). These factors can be used by decision-makers in the LIS organisations as a guideline to achieving effective TQM implementation.
- Socio-cultural factors and their implications for management behaviour had not hitherto been investigated in Saudi LIS literature; the current study has gone some way towards enhancing understanding of this issue, thus making a unique contribution to the body of research.

### 9.4. Recommendations

Based on the research findings, the researcher offers some recommendations to LIS practitioners regarding the implementation of TQM to improve Saudi ICs services.

- Saudi university ICs should pay attention to the critical success factors presented in this research in order to improve these areas and achieve better outcomes, thus potentially leading to the full application of TQM.

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- The IC management should review cultural aspects and compare their cultures with the other organisations that implement TQM culture successfully, in order to identify the gaps between cultures. These gaps must be filled by developing strategies to move towards a TQM culture.
- Management philosophy in Saudi ICs should be changed and managers' attitudes and practices improved. The IC management should be convinced that the quality journey is a continuous process that requires a strong and long-term commitment.
- Staff should be trained continuously on quality principles, such as problem-solving techniques, communication and teamwork. Quality training should be used as a method to increase the individuals' awareness of TQM principles and to reduce their resistance to change.
- Empowerment should be embedded in the practices within the IC. Staff should feel that they belong to the IC but this cannot be reached without involving them in management activities.
- It is suggested that teamwork should be encouraged and facilitated in the conduct of all or most tasks to organise and direct all individuals' efforts to improve services. Management should encourage the transference of experience and knowledge between IC units and between staff within the same unit, through teamwork.
- Members of IC management are encouraged to focus more on meeting user needs. The users must feel that their opinions and feedback contribute to service improvement. Effective complaints systems should be established in order to resolve the users' complaints, thus improving their satisfaction.

- The implementation of systematic approaches to making workflow more effective, more efficient and capable of adapting TQM principles, in order to accomplish the IC objectives. Processes within the IC should be defined, based on user needs and measured frequently in order to keep these processes updated and improved.
- There is a need to establish quality units to guide and coordinate the efforts of service improvement with other units within the universities. These units should be managed by qualified managers with backgrounds in LIS and quality issues, in order to ensure their capability to contribute to TQM implementation.

### 9.5. Future Research

Due to the limitations of this research study, which were identified and discussed above, future research could usefully address the following:

- It is recommended that female participants are included in qualitative investigations involving interviews in order to investigate their role in implementing TQM, which may be different from that of male staff.
- The influence of socio-culture factors needs to be investigated in depth to discover how culture affects the process of implementing TQM.
- This study is limited to populations in six Saudi universities at a particular time. Replication of this study at all Saudi universities over a longer period of time could go some way to confirming the validity of the findings and thus lead to more valid findings.

- The benchmarking tool (Section 8.2) to be applied and validated in further studies to ensure its validity and effectiveness in benchmarking TQM implementation. This benchmarking model was based on the findings of this study and would be difficult to generalise to other contexts. Thus, it is essential to increase its validity for other organisations.
- The benchmarking tool has five different levels and while this study identified three out of the five possible levels, further investigation is needed to see whether the other two levels (namely, repeatable and defined) exist in other Saudi ICs.
- Further research is recommended to focus on the critical success factors in this study which might validate the results found here.
- Involving users in further research is recommended. User needs and their levels of satisfaction should be investigated in order to discover their perceptions of Saudi IC services and quality practices.
- This study can be replicated in other sectors in Saudi Arabia, such as education, health, etc., in order to establish quality initiatives in these sectors.
- Finally, comparative studies are recommended to compare quality initiatives in LIS in different parts of the world in order to search for best practice.

### 9.6. Research Implications

The benchmarking tool provided in Section 8.2 is potentially capable of helping Saudi IC management to understand different quality improvement steps before implementing TQM. This tool was designed to take into consideration several factors that make the



Saudi context different from other contexts (see Section 8.1.10). The Saudi ICs should have the knowledge and motivation to start the improvement process. This research showed that quality management in the Saudi ICs is a set of practices that may face some challenges such as organisational culture and the individuals' resistance to change. Implementing quality management needs to be a revolutionary effort that requires new skills by managers and staff. The benchmarking tool in this study would help Saudi ICs to fill the gap between practice and theory and to lead the transition from traditional culture to a quality management culture. This tool may encourage decision-makers in Saudi ICs to adopt the approach as a way to implement quality management in their ICs.

The results of this study will be presented and discussed with researchers and quality experts for potential inclusion in future publications in Saudi Arabia, the Middle East and international contexts. In an on-going effort for continuous improvement, feedback and comments from quality experts will be used for future research papers. Finally, the proposed benchmarking tool will be introduced not only at international conferences and workshops in the field of LIS, especially those that specialize in library assessment and quality issues, in order to have it evaluated by experts in LIS and quality contexts, but also to Saudi university ICs (including those that participated in this study), and university ICs in other countries in order to ensure its validity and to explore the extent to which it can be useful in assessing the performance of LIS organisations.

In Saudi Arabia, attention has recently focused upon quality issues. However, there have been only a limited number of studies discussing such issues. This study has helped to fill this gap and accordingly to contribute to the TQM literature in the Saudi LIS sector. The researcher hopes that a starting point for other researchers in the Saudi

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LIS sector has thus been provided that will develop their knowledge regarding quality management and encourage others to replicate this research in other sectors in Saudi Arabia, such as health, education, management, etc.

This research makes a contribution to the body of knowledge in terms of identifying the critical success factors in TQM and by presenting a detailed investigation of TQM application in the Saudi university ICs.

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## APPENDIX A: THE QUESTIONNAIRE

### Total Quality Management in Saudi Academic ICs: A questionnaire:

### The design of this questionnaire is based on the EFQM Self-Assessment questionnaire:

European Foundation for Quality Management (EFQM). (2010). *Model 2010 Simple Questionnaire* [Online]. Brussels. EFQM.

<http://www.efqm.org/en/knowledgebase/Home/Tools/EFQMModel2010tools/tabid/329/Default.aspx> [Accessed 3 January 2011]

### Please answer the following questions (1-10)

#### Personal information about you:

1. Your university name is.....
2. Your university IC name is.....
3. The number of staff in your IC is:  
 Fewer than 15  15-29  30- 44  45- 59  60-74  75-99  100-149  150 or more  Not known
4. What is your current position:  
 IC Dean  Associate Dean  Assistant Director  Department Head  
 Librarian  Assistant Librarian  
 Other (please specify).....
5. Age:  
 Under 25  25- 34  35-44 years  More than 45
6. Gender  
 Male  Female
7. How many years have you worked in the IC?  
 0-10  11-20  21-30  31 or more
8. Highest level of education:  
 Secondary school  Diploma  Bachelor  Master  PhD
9. Do you have a degree in IC and information science?  
 Yes, Diploma  Yes, Bachelor  Yes, Master  Yes, PhD.  No
10. Do you have a degree in another subject? If yes, please specify:  
 Yes  No. The subject is: .....

Please answer the following questions (11-89) by ticking the box:

- **Leadership:**

In your IC:

11. The managers develop the mission, vision, values and ethics and role models for a culture of Excellence.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
12. The managers demonstrate and communicate a clear understanding of improving services.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
13. The managers encourage employee empowerment and autonomy  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
14. The managers review and improve the effectiveness of their leadership.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
15. The managers use commitment to improvement as one of the criteria for selecting candidates for promotion and reward.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
16. The managers interact with users, partners and representatives of society  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
17. Satisfaction of current users ensures the success of the IC  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
18. The managers stimulate the continuous improvement of services and processes  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
19. The managers continuously acquire and update knowledge that is valuable for the IC  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
20. The managers recognise the performance of individuals working in the IC.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **Policy and strategy**

In your IC

21. Policy and strategy are based on the present and future needs and expectations of users.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

22. The managers formulate strategies and plans based on information relating to the performance of competitors  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
23. The managers ensure understanding of the IC strategy and plans by its people in terms relevant to their activities  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
24. The managers communicate strategies and plans to all employees.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
25. Effective management is based on information about users, employees, and society.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
26. Users' needs are taken into account when establishing objectives  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
27. Policy and strategy are based on information from performance measurement.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
28. IC self-assessment processes take place on a regular basis  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
29. Information systems are in place to capture information about external users needs.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
30. The IC has formal strategic plans  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
31. Policies to improve services are translated into a set of specific and measurable objectives  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **People:**

In your IC

32. People resources are planned.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
33. People resources are managed.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
34. Formal processes are used (such as attitude surveys or employee briefing) to find out employee opinions  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
35. Emphasis is placed on recruiting highly skilled employees  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

36. Extensive quality training programs are provided for employees  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
37. Employees are allowed to decide how the work is done  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
38. Employee opinions are taken into account when defining organisational objectives  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
39. Employee participation is encouraged.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
40. Teamwork is a common practice  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
41. Formal communication procedures are established with staff and users.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
42. Employees have access to information about quality results  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
43. Internal communication is totally open and transparent  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
44. People are rewarded, recognised and cared for  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **Partnerships and resources:**

In your IC

45. External partnerships of the IC are managed  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
46. The IC has a high capacity for external cooperation  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
47. Financial resources are managed  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
48. Information technology is managed  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
49. The IC manages risks.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
50. Efforts are made to know what the workforce needs in terms of information and resources  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

51. The IC ensures everyone has the appropriate information to do their jobs and that relevant indicators are established and displayed.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
52. The IC assures accessibility, security and accuracy of information and complies with relevant regulations.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
53. The IC identifies and evaluates relevant new and emerging technologies and implements these technologies  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
54. The IC manages the selection and measures the performance of its suppliers.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **Processes**

In your IC:

55. Processes are systematically designed and managed  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
56. The IC seeks feedback from users to improve its products and services.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
57. Processes are improved, as needed, using innovation in order to fully satisfy and generate increasing value for users  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
58. Relationships with users are managed and enhanced  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
59. Work methods and organisational processes are explicitly defined  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
60. There is comprehensive documentation about work methods and organisational processes  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
61. Quality manuals and organisational processes are periodically revised  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
62. Systems of indicators are in place to review changes in processes  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
63. Work processes exist that promote efficient behaviour patterns throughout the IC  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

64. Services are designed and developed based on user needs and expectations  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
65. Service provided to the users are designed to high quality standards  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
66. Standardised systems are in place to deal with users' complaints  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **Users' results**

In your IC

67. Users' satisfaction has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
68. Communication with users has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
69. Users' complaints have decreased  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
70. Users' impressions about the IC and its services have changed for the better.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
71. Users loyalty to the IC has increased  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **People results**

In your IC:

72. Employee motivation and commitment are encouraged from the management  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
73. Employee willingness to work extra time has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
74. Employees identify and provide solutions to work problems  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
75. Employees share organisational values  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
76. Employee absenteeism has decreased  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
77. Employee turnover has decreased



Strongly agree  Agree  Neutral  Disagree  Strongly disagree

78. Employee opinions contribute to improving work performance  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
79. Communication between employees has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
80. Employee satisfaction has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **Society results**

In your IC:

81. The IC participates in serving the community  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
82. The IC has a positive impact in society  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
83. The IC has an active involvement with communities, charities, schools, voluntary groups  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

- **Key performance results**

In your IC

84. The public can use the IC collections and facilities.  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
85. There is cooperation between your IC and community organisations  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
86. Quality of services has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
87. Process efficiency has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
88. Knowledge about efficient operations management has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree
89. Recorded time to finish work has improved  
 Strongly agree  Agree  Neutral  Disagree  Strongly disagree

## Appendix A- The Questionnaire

- If you have any comments or suggestions about the quality of services, improving services, or performance measurement, please write them in the following space.

\*\* Do you want to participate in the interview?

YES

NO

Thank you.

## APPENDIX B: INTERVIEW GUIDE

Good morning/afternoon. My name is Faisal Altamimi, a PhD student at the University of Sheffield, UK. I am conducting this interview as part of my research: "Total Quality Management Implementations in Saudi Academic ICs".

Today, I would like to talk to you about your perception of your IC's implementation of quality systems introduced in your IC.

This interview is voluntary and a confidential activity. At any time, if you would rather not answer a question, please say so. The information will be used for research purposes only. I will not include your name or details. If you agree to participate, I will be grateful if you sign the consent form.

The interview should last about 30-40 minutes. With your permission, it will be tape recorded. With your agreement, I will proceed with the interview.

Personal information:

- What is your name? How old are you?
- What do you do in the IC/what is your position?
- How long have you worked in this IC?
- Do you have a professional or academic qualification in IC and information science? If yes, please state that.
- Do you have a management or management related qualification? Please state that.

### TQM questions

Thank you, I would like to ask you some questions about the management system and processes in your IC.

First, can you tell me how the quality of service is maintained in this IC?

- What are the benefits, if any, to you?
- What are the disadvantages, if any, to you?
- What are the benefits, if any, to the user of the services?
- What are the disadvantages, if any, to the user of the services?

**Senior management:**

- Does your IC have a clear mission statement? If yes, what is it? Is it spread among the IC?
- Does your IC have a quality policy? If yes, how is quality policy communicated to lower levels (employees)?
- To what extent is the senior management in your IC committed to quality issues?
- Does the IC management have the required management skills?
- Do the managers allow you to take part in the management activities? To what extent? Explain.

**Customer focus:**

- How do you measure users' satisfaction? How often?
- What is your experience with measuring users' satisfaction?
- What is your IC's relationship with users?
- How does your IC deal with customer complaints?

**Processes:**

- Does your IC use clear work procedures and instructions?
- To what extent does your IC use teams in its processes for improvement?
- Do you get feedback? What is your impression on the feedback you get?

**Training:**

- What are your experiences of training in general and in quality specifically?
- What are your opinions about the level of training and development available to staff? Does it meet their personal requirements? If not, why?

- What are your opinions on your career development? What are your aspirations? Are there enough promotion opportunities? If not, why?
- What is the role of managers and supervisors in training activities?
- Are there enough and equal opportunities for employees to train in quality management?

**Empowerment and participation:**

- What are your experiences of participation in the IC? i.e. decision-making processes, other activities?
- What do you think about the teamwork concept? Is it widely spread in your IC? If not, why?
- How do you feel about your level of participation in these teams? Are you satisfied? If not, why?
- How important is participation to you?
- What degree of participation do you experience? (i.e. involvement in decision-making? active or passive?)
- Does the management empower you? To what extent?

**Continuous improvement:**

- Does your IC have a quality improvement program? If yes, please explain?
- Does your IC regularly review the key processes for improvement?
- To what extent does your IC promote innovations?

**Rewards and appreciation:**

- In addition to your salary, do you receive any rewards for your efforts?
- If you do, what type of rewards do you receive? Financial? Non-financial? And how do you feel?
- If not, how do you feel?
- Can you tell me your opinion about the pay you receive? How important is it to you? How satisfied are you with your pay?

**Community:**

- Does your IC have a good impact on the surrounding society? If no, what are the reasons?
- Are there connections between your IC and community representatives?

Finally, is there anything you would like to add, that we have not discussed this morning/afternoon?

Alternatively, would you like to clarify any points or issues that you have raised?

Closing remarks

I would like to thank you for your time and for your cooperation in this study. It is very much appreciated.

## APPENDIX C: ETHICS FORMS

### C-1 Information Sheet

**Research Project Title: Total Quality Management Implementations in Saudi Academic ICs.**

#### **1. Invitation paragraph**

You are invited to participate in a research project. It is important to understand what this research aims to do. Please take time and read the following information carefully. If you find anything is not clear or need more information, please ask the researcher or email him. Take time to decide whether or not you wish to participate.

#### **2. What is the project's purpose?**

Total quality management (TQM) is a concept that was originally applied in industrial and commercial sectors to assist in measuring their performance and improving the satisfaction of their customers. TQM is a set of principles, tools and practices that aims to achieve customer or user satisfaction. The success of this concept has encouraged practitioners to employ this concept public sector organisations and higher education systems especially in academic ICs. The researcher's aim is to explore the application of this concept to Saudi academic ICs that may need new management philosophies to improve their performance to achieve their users' satisfaction. This research will try to examine the performance of Saudi academic ICs and identify their strengths and weaknesses. In addition, it will investigate current thinking and practice about service quality and performance measurement in Saudi academic ICs. The data will be collected in two stages, questionnaire followed by interviews. The interview participants will be chosen based on the questionnaire results.

#### **3. Why have I been chosen?**

You have been chosen to participate in this research because you are working in one of the academic ICs under study. If you agree to participate, you will be asked to confirm

your consent through completing a questionnaire and also by signing a form, if you agree to be interviewed. The interviewees will be chosen based on the answers given in the questionnaire. You may keep this information sheet and you can withdraw from the research at any time without providing any reason. It is a voluntary activity.

**6. Do I have to take part?**

You have the full right to decide whether or not to participate. Your participation in this research is a voluntary activity. If you decided to take part, you will be given this information sheet to keep and be asked to sign a consent form. You can withdraw at any time without giving a reason.

**7. What will happen to me if I take part?**

You will be asked to answer the questionnaire online and submit it. It will take 20 minutes to answer. If you have agreed to be interviewed, the interview will take place on your IC premises. It will last approximately 30 minutes.

**7. What do I have to do?**

The online questions are mostly close-ended questions related to quality management in your IC. You need to choose one answer from the provided answers that most closely reflects your opinion. You will be able to provide comments or suggestions that you think are important at the end of the questionnaire. If you have agreed to be interviewed, you will be asked directly about issues related to the research topic and you may provide your opinion and ideas freely. You have the full right to end the interview if you think it should be ended.

**8. What are the possible disadvantages and risks of taking part?**

You will not be asked sensitive questions. You have your right to participate in this research or not. There is accordingly minimal risk of physical or psychological harm to you.

**9. What are the possible benefits of taking part?**



This research may provide benefits to the participants when it is applied. It may help to solve difficulties faced by the librarians and academic ICs under study. Decision makers in these academic ICs can use it as a guideline when they apply total quality management concept in their ICs.

**10. What happens if the research study stops earlier than expected?**

In this case, you will be informed about the reasons caused that.

**11. What if something goes wrong?**

If you have any concerns or complaints, you can express them to the researcher in person, or contact him via [F.Altamimi@sheffield.ac.uk](mailto:F.Altamimi@sheffield.ac.uk) or contact his supervisors directly: Prof Sheila Corrall ([s.m.corrall@sheffield.ac.uk](mailto:s.m.corrall@sheffield.ac.uk)) or Ms Barbara Sen ([b.a.sen@sheffield.ac.uk](mailto:b.a.sen@sheffield.ac.uk)). If you are not satisfied with their response, you may contact the University's Registrar & Secretary, Dr Philip Harvey. This complaint process is applicable during the research period and after the project has finished for matters related to the research.

**12. Will my taking part in this project be kept confidential?**

Your identity and responses will be kept confidential. The researcher will use your data for research purposes only. Your email address and other contact details will be saved in a password-protected computer. After the research is finished, these personal data will be deleted.

**13. What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?**

You also will be asked to provide your opinion about various aspects of total quality management in relation to the management of your IC. Besides, you will be asked to provide some personal information such as age, gender, your qualifications, number of staff in the ICs, and your position. This information will be used to provide a clear background about the participants and for research purposes only. By using personal

information, the researcher will be able to group together responses from participants with similar demographic characteristics.

**14. Will I be recorded, and how will the recorded media be used?**

If you are chosen to be interviewed, you will be informed that the interviews will be tape recorded for research purposes only. In addition, these recorded tapes will not be used by others without the interviewees' written permission and no one outside the project will be allowed access to the recordings. These recorded tapes will be kept in a safe place under lock and key. After finishing this research, these audio tapes will be destroyed immediately by the researcher.

**15. What will happen to the results of the research project?**

If you wish to receive a copy from the results obtained, the researcher will be happy to provide a copy of these results.

**16. Who is organising and funding the research?**

The researcher has a full scholarship from King Saud University, Saudi Arabia.

**17. Who has ethically reviewed the project?**

This research has been reviewed ethically by the Information School, University of Sheffield, where the researcher is a PhD student.

**18. Contact for further information**

You can contact the researcher via [F.Altamimi@sheffield.ac.uk](mailto:F.Altamimi@sheffield.ac.uk)

Thank you for taking part in the project.

C-2 Participant Consent Form

**Title of Project:** Total Quality Management Implementations in Saudi Academic Information Centres.

**Name of Researcher:** Faisal A. Altamimi

**Participant Identification Number for this project:**

**Please initial box**

- 1. I confirm that I have read and understand the information sheet/letter for the above project and have had the opportunity to ask questions.
- 2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.
- 3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses.
- I agree to take part in the above research project.

Name of Participant	Date	Signature

Name of person taking consent	Date	Signature.