Investigating the Impact of Aligning Accreditation, Performance and Quality Management on Hospital Improvement: The Case of Saudi Arabia

A thesis submitted for the degree of Doctor of Philosophy

by

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May 2017

Abstract

With many global problems affecting the human population in recent years, which would include aging and increase in chronic diseases, hospitals are becoming overwhelmed by patients. To overcome this issue and ensure appropriate treatment is provided, many proposals and projects have been developed. Quality management is an aspect of care that is needed to minimize the time people stay at hospitals and improve the efficient delivery of healthcare services, while also, the presence of accreditation provides an international mean to assure proper quality of care and performance improvement is delivered. While performance improvement is mainstream in many fields, it is under developed yet highly pertinent to the healthcare sector in order to improve patient care and here is where the importance of this research is illuminated.

The current research investigates the impact of accreditation on performance measurement in hospitals as an effective external assessment scheme. While also, investigating the effect of following international standards developed by accreditation organizations and maintaining high quality of care and performance improvement. Moreover, the current research was conducted at hospitals in different cities of Saudi Arabia, which could be generalised to the whole country and similar healthcare systems including: Qatar, Kuwait, Oman, Bahrain and the United Arab Emirates.

Based on the pragmatism philosophy, this research is of an exploratory nature, which adapts a mixed method design to collect data from different hospitals in different cities.

The main finding of the current research is the provision of a framework which demonstrates the alignment and its connection to the external and internal environment. Moreover, the data were collected through case studies and questionnaires which provided the validation of the current research framework, two new internal environment factors namely: involvement and standardisation and an outcome to the alignment namely improvement.

Hence, this research argues that following national and international standards of care are enablers for hospitals to achieve performance improvement and high quality care. Furthermore, the findings of this research suggest that accreditation is directly linked to performance improvement and is essential for the quality of care in hospitals.

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Dedication

I would like to dedicate this PhD to my mother, who lived her life to help me and my siblings to follow our dreams and as a granddaughter I am an extension of you mom so… grandpa this is for you too.

Also, I would like to dedicate it to five year old me who wanted to be just like her father…it took hard efforts, struggles and a lot to get here, but here I am. So dad your daughter is still following in your footsteps.

Acknowledgment

I have to thank first and foremost God for his eternal blessings, for granting me health, patience, perseverance, love and protection. For putting people in my way to guide, support and help me push through.

I would like to acknowledge the support of my supervisors', Dr Abraham Althonayan and Dr Panagiota Nikoupolou-Smyrni, for their support, encouragement and belief in me.

To the most important people in my life, who gave me life and filled it with love, joy and happiness, who raised me to be respectful, to always aspire for greatness and imprinted the importance of education in me, to my parents, Prof. Abdulrahman Mohammed Al-Qurashi and Dr Suhair Makki. Thanking you will never be enough as if it was not for your prayers, support, trust and understanding I would not be where I am today.

Also, I cannot forget my rock, my constant support system and my company, whose always there for laughter and hardship, my siblings, Mohammed, Lujain, Shahad, Ibrahim and Omar; I cannot imagine a life without you and I am blessed to have you all in my life.

Finally, I would love to thank Dr Anas Zerhouni and Dr Shaihana Al-Mutairi for sticking by me throughout this journey and showing me that some friendships are made for life…I cannot thank you enough and cannot express how thankful I am to have you both as an important part of my PhD journey.

Thank you all for this experience, with its ups and downs, good and bad and I hope you made you all proud.

Declaration

I declare that, this thesis is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions.

To the best of my knowledge, no portion of the work referred to in this thesis has been submitted in support of an application for another degree, or qualification, to any other university, or institute of learning.

The following publications have been produced as direct or indirect results of the research discussed in this thesis.

Conferences

- Alqurashi, H, Althonayan, A. and Nikopoulou-Smyrni, P. (2016). The Impact of the Alignment of Accreditation, Quality and Performance management in Saudi Hospitals. In *the 7th World Congress on Healthcare and Technologies*. London, 26-27, September 2016. London, UK: Healthcare Summit 2016. 66.

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Publications

- Alqurashi, H, Althonayan, A. and Nikopoulou-Smyrni, P. (2016). "The Impact of the Alignment of Accreditation, Quality and Performance management in Saudi Hospitals" in the 7th World Congress on Healthcare and Technologies, *London 2016: UK Healthcare Summit 2016*, pp. 66.

Chapter 1 Introduction

1.1 Background

Healthcare is one of the most complex sectors in any economy and it affects all other industries. It is also highly susceptible to changes in the external environment as any change in the economy or the population has a direct effect on its services and delivery (Baxter, 2010).

With the many disease outbreaks, changes in the population, technological advancements, political changes, legal regulations and financial crises, the healthcare sector has been changing, developing and updating. Yet, the main requirement of any healthcare institution is to improve its services and deliver healthy patients as an outcome (Plsek and Greenhalgh, 2001).

Accreditation started in the manufacturing industry as a process of external evaluation of systems. It was introduced to healthcare in the early 1970s and since then many accreditation organizations have been established. Moreover, national accreditation programs have been and are being developed, all of which should be certified by the International Society for Quality in Health Care (ISQua) that provides and approves the standards of care (Greenfield and Braithwaite, 2008).

The reason healthcare institutions apply for accreditation is that it ensures standardization of care through meeting international standards and the process of accreditation relies on the availability of performance measurement systems that are developed and maintained through quality management departments (Alkhenizan and Shaw, 2011).

1.2 Research Problem

In recent years, research in healthcare studies has moved towards improving patient safety, service delivery and quality of care and includes many studies on accreditation, performance measurement and quality management.

Some studies link accreditation and quality (Madamala *et al.*, 2012; Alkhenizan and Shaw, 2011; Pomey *et al.*, 2010), others which link quality and performance (Weiner *et al.*, 2006;

Chow-Chua and Goh, 2002; Scanlon *et al.*, 2001; Rapert and Babakus, 1996) and there are also studies that link accreditation to performance (Jaafaripooyan, Agrizzi and Akbari-Haghighi, 2011; Braithwaite *et al.*, 2010). However, there is a lack of studies which link all three concepts together.

Thus, the problem this research addresses is the impact of aligning accreditation, performance measurement and quality management in healthcare (Figure 1.1). This research focuses on the Saudi context, which is considered the biggest healthcare market with the highest number of accredited hospitals in the Gulf region. Moreover, this research investigates the perception of management and staff of different hospitals in different cities of accreditation and how it impacts their performance. Furthermore, this research intends to develop a framework that highlights the alignment within the internal environment of healthcare and the organization, in addition to the external environment and its effect on the healthcare sector.
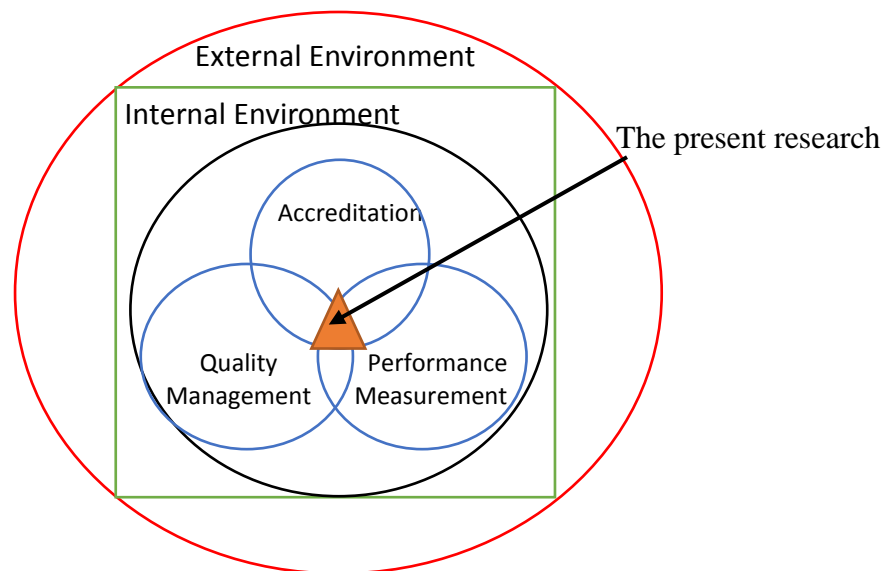
Figure 1.1 Present Research Model.

Source: The Researcher.

1.3 Research Rationale

The rationale for this research stems from the increase in the adoption and application of accreditation in the healthcare sector, which is accompanied by more standards and

indicator developments to measure performance and quality of care (Nicklin, 2013). Moreover, with the focus shifting in healthcare from treatment and care to prevention and personalised care, measuring performance and quality of care becomes an essential task for hospitals (Roski and McClellan, 2011).

This research assesses the impact of the alignment of accreditation, performance measurement and quality management from the healthcare providers' aspect (management and staff) and the external evaluators' aspect (accreditation organization). Thus, with the intense adoption of accreditation and it becoming a necessity required by governments, this research develops a framework which focuses on the impact of the alignment of the three main concepts on hospitals.

The framework presented in Chapter 3 emphasises the importance of implementing performance measurement and quality management appropriately prior to applying for accreditation. Additionally, the framework also focuses on the importance of the internal and external environments for the alignment and the implementation of the three main concepts. Moreover, this research seeks to improve the adoption and implementation of accreditation, clarify its links with performance measurement and quality management, while considering the impact of the external and internal environments, to achieve improvement of care.

1.4 Aims and Objectives

The aim of this research is to:

1. Investigate the effect of the alignment of accreditation, performance and quality management on improvement of hospitals;
2. Develop a framework that demonstrates the alignment.

There are three main objectives of this research:

1. To analyse the impact of integrated healthcare services, in particular accreditation, performance and quality management in Saudi hospitals;
2. To investigate the effect of the alignment of accreditation, performance and quality management on hospitals performances;
3. To validate the framework through the adoption of mixed methods.

1.5 Research Questions

"… we have always tried to go into organizations with a well-defined focus- to collect specific kinds of data systematically." (Mintzberg, 1979, p585)*.*

This quotation showcases the importance of the research question in relation to determining and analysing the research problem. Thus, to be able to achieve the aims and objectives of a research, questions should be developed and assigned to meet the requirements of the research as they provide guidance for the research process and ensure its consistency throughout (Eisenhardt, 1989). Narrowing the focus of research to a small number of questions helps to explore the research problem more efficiently. Thus, the main research question this research addresses:

- **How does the alignment of accreditation, performance and quality management affect hospitals performances**?

Furthermore, other questions the present research addresses are:

1. How do accreditation, performance and quality management interlink in the health sector?

2. What are the applications of accreditation, performance measurement and quality of care?

3. What are the organizational factors which affect the adoption of accreditation?

4. What are the implications of accreditation on hospital management and staff?

1.6 Research Contribution

The main contributions this research provides are:

1. A contribution to theoretical knowledge through the review of the concepts and any related aspects of accreditation, performance and quality. This is accomplished through reviewing the literature, industrial reports and the researchers' certainty of the impact of the alignment and the environment on healthcare delivery.

2. A contribution in the development of a framework which demonstrates the alignment, and provides a clear representation, of all three concepts and the effect of the environment on attaining improvement in healthcare delivery.

3. An understanding of the importance of the alignment to improve healthcare delivery. This is based on the literature review, findings of this research and the professional experience of the researcher in hospital quality and medical record departments. Moreover, the results of the research will provide a step-by-step guide to implementing the framework and recommendations for future research.

4. A contribution in the methodology, as this research adopts mixed methods for data collection, which results in multiple analysis conducted to be able to include the views of large numbers of employees and managers in hospitals. Moreover, most research in this area adopts either qualitative or quantitative methods, while some recent studies have adopted mixed methods they only consider the view of either the accreditation organization or the nursing staff. Thus, this research contributes in the adoption of mixed methods and the inclusion of both the accreditation organization, management and staff perception of accreditation.

1.7 Research Context

The Kingdom of Saudi Arabia (KSA) is the biggest country in the Gulf region and one of the richest and fast growing countries in the Middle East (Almalki, Fitzgerald and Clark, 2011). The World Bank and the United Nation classify Saudi Arabia among the high-income countries thanks to its important oil and gas resources and it being among the largest fuel exporting countries (The World Bank, 2015; United Nations, 2015) .

According to the Saudi Ministry of Finance (2015), Saudi Arabia is one of the highest spending countries in the Gulf Cooperation Council (GCC) on healthcare; it is the largest healthcare market in its region, with a rapid, sustainable and significant growth in quality improvement and structural expansion. Saudi Arabia has attributed over $42 million in 2015 for healthcare services to cover already existing hospitals, healthcare centres and new expansion projects, which include new primary care centres, hospitals, laboratories and centres for the support of social welfare, special needs for its citizens and poverty eradication programs, as indicated in Figure 1.2 (Saudi Ministry of Finance, 2015).

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                        healthcare services

        additions                              social services

  new primary care centers      at present             16 sports clubs
                              under construction
       3 new hospitals                               5 centers for speical need citizens,
                                   117 hospitals       social welfare and labour offices.
    3 blood bank laboratories
                                   8 medical cities
       11 medical centers                            support for social welfare, citizens
                                                      with special needs and poverty
  10 comprehensive care clinics                          eradication programs.
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Figure 1.2 Distribution of Healthcare Services

Source: (Ministry of Health, 2009)

The first health-oriented development in Saudi was in 1925 when the first king of Saudi Arabia issued a decree to develop a healthcare department to provide healthcare for the people and the pilgrims; this was followed with the development of the Ministry of Health (MOH) in 1950 (Alharthi, 1999). Twenty years after the development of the ministry, a five-year development plan for the government was initiated, which included the healthcare sector and, since then, healthcare has developed immensely in quantity and quality (Mufti, 2000).The MOH provides 60% of all healthcare services and the remaining 40% of services are divided between private, educational, referral and other industry specific hospitals (Figure 1.3). Additionally, healthcare in Saudi Arabia is free for its citizens, expatriates working in the governmental sector and household employees; it provides its services in more than 2000 primary healthcare centres and 420 hospitals, which receive 66 million visits with an average of 264,364 visits daily (Ministry of Health, 2015).

The growing population, increase in life-style diseases and many major healthcare projects in the Middle East region, specifically in the Gulf Cooperation Council (GCC) area have become sufficient drivers to expand the healthcare sector and fund developmental projects

with a focus on prevention of diseases (Word Health Organization, 2010; Al-Qurashi *et al.*, 2008; Jannadi *et al.*, 2008; Al-Turki, 2000).
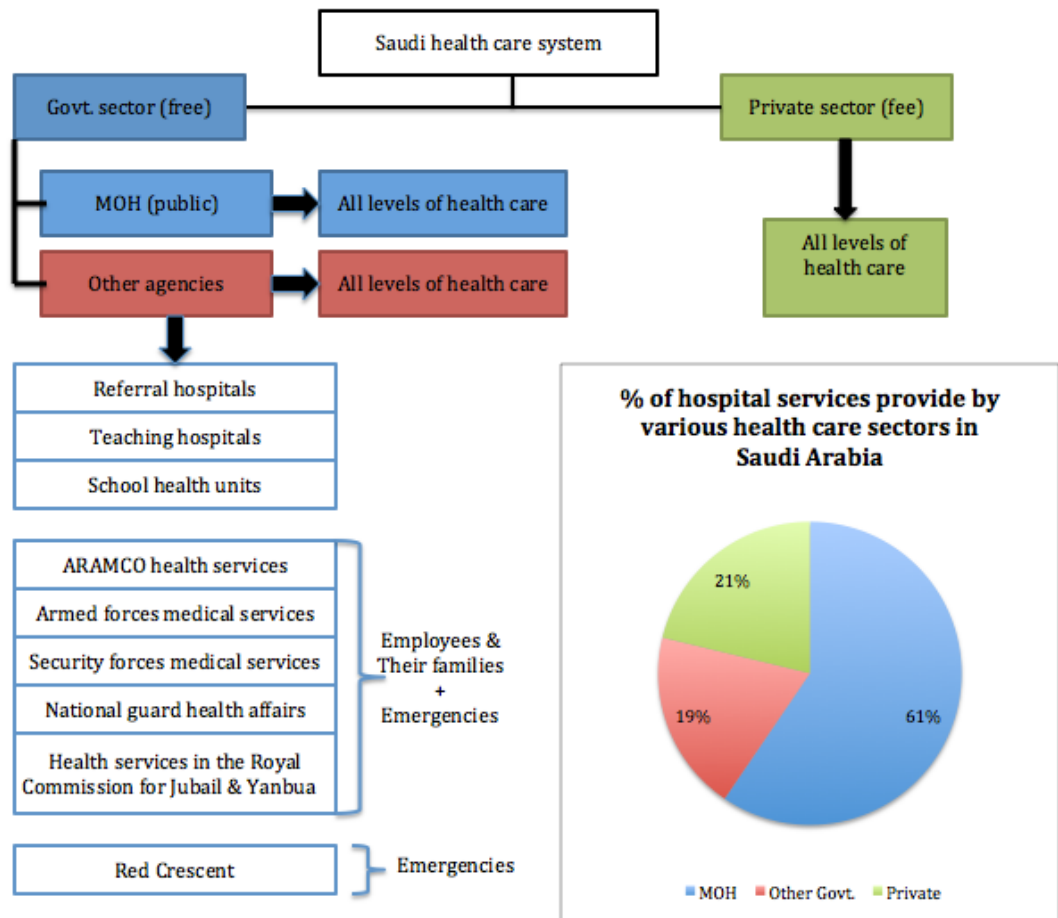
Figure 1.3 The Structure of The Healthcare System.

Source: (Ministry of Health, 2009).

Even though the Saudi government invests immensely in its healthcare sector, it was found that Saudis tend to only seek healthcare when they are sick and have not been accustomed to visit hospitals for check-ups. Additionally, the MOH is continuously investing in expansion of the infrastructure of its healthcare sector, which will offer a new opportunity for the population to benefit from the services provided for their health (El Bcheraoui *et al.*, 2015).

Furthermore, due to a shortage in Health Care Workers (HCW) and hospital capacity, the pressure has increased on the government, which led to the introduction of health

insurance, and more involvement with the private sector, that is accomplished through grants and supporting partnerships with private hospitals in order to meet the increasing needs and capacity requirements (Hawkins, 2015).

Also, in accordance with the improvement initiatives and governmental support and attention given to the healthcare sector in Saudi, the Saudi healthcare system was ranked 26th out of the 190 healthcare systems assessed in an investigation conducted by the World Health Organisation (WHO) during the year 2000 (World Health Organization, 2000). Likewise, the evolution of healthcare worldwide, increased awareness of the Saudi population, allowing more accountability to healthcare and pursuing improvement are some of the reasons for the development of healthcare in Saudi (Almalki, Fitzgerald and Clark, 2011).

However, despite all these improvements, the healthcare system is facing many challenges and few issues remain not fully controlled such as the lack of sufficient healthcare workers, lack of coordination between the different parts of the sector and accessibility to services (Alhusaini, 2006). Hence, currently the MOH has been working on many projects such as the introduction of health insurance, cooperating with private hospitals, creating care centres and implementing e-health systems to facilitate access to healthcare services around the kingdom (Al-Yousef, Akerele and Al-mazrou, 2002; Altuwaijri, 2008).

1.8 Methodology

This research explores the impact of the alignment of the three main concepts of accreditation, performance measurement and quality management in Saudi hospitals and to provide reliable data the following methodology is adopted.

The exploratory nature of this research leads to it following the pragmatic paradigm, with abductive reasoning, enabling the adoption of mixed method research design. Thus, data has been gathered from 5 internationally and nationally accredited hospitals in different cities in Saudi Arabia through conducting interviews and distributing questionnaires.

The data sets were collected at the same time. The interviews with managers of hospitals, medical directors, quality and training managers took place depending on the availability of access to these departments in the hospitals. In addition, two interviews with an

international accreditation organization and Saudi's national accreditation organization (CBAHI), led to a total of 16 interviews being conducted. The questionnaires were distributed to the nursing, quality, laboratory and training department staff and 487 responses were received.

The interviews were transcribed, thematically analysed and grouped into multiple case studies and the resulting themes which emerged from all the cases, and were repeated, were the themes added to the final framework of the current research. In addition, the quantitative analysis was conducted through SPSS, where a reliability, validity and factor analysis were conducted.

1.9 Research Outline

Figure 1.4 illustrates the structure of the current research and this section will describe each chapter briefly.

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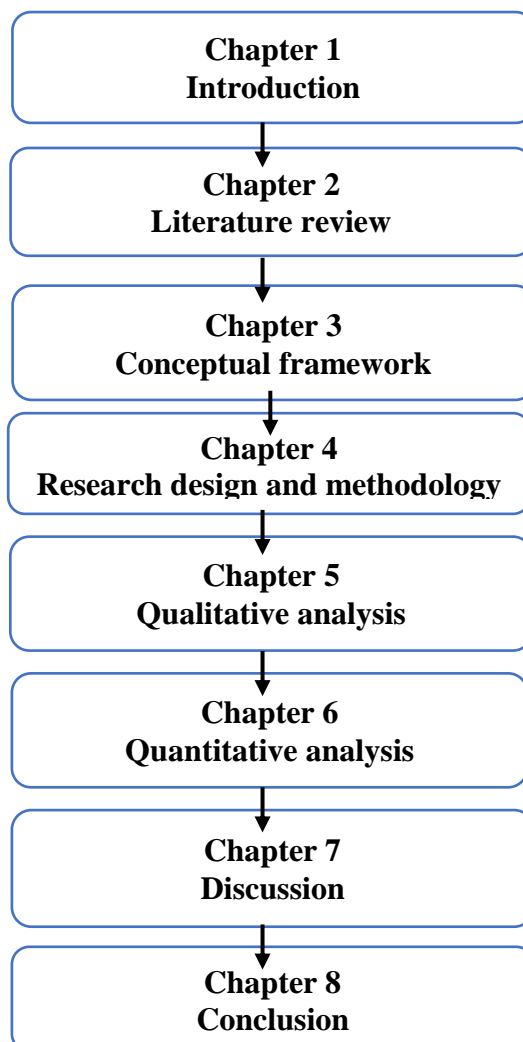
Figure 1.4 Research Outline.

Source: The Researcher.

The literature review chapter (Chapter 2) provides an insight into the research literature available on the topic. The chapter is divided into three sections namely: performance measurement, quality and accreditation in healthcare. Each section discusses the key literature available and the strengths and weaknesses of the section. That is followed with a discussion regarding the alignment of all three areas, the literature gap, and chapter conclusion.

The conceptual framework chapter (Chapter 3) will discuss the different theories related to the three main aspects of this research and the external environment theories, it will also provide a consideration of the different frameworks adopted and developed for the three aspects, which will be followed with the theoretical framework developed for the current research and a discussion about the internal and external environments of the framework.

This research adopts Juran's Quality Trilogy and Open Systems Theory for its framework as it takes into consideration the importance of the environment to the healthcare sector and a preliminary framework is devised to be later validated based on the methodology.

The methodology chapter (Chapter 4) follows the structure of the research onion developed by Saunders, Lewis and Thornhill (2012). It will first describe the different options for each section and will conclude with the current research approach. Moreover, it will begin with the different research purposes, followed by the research paradigm, the different research approaches, strategies, methods and sampling.

Also, it will include a section regarding the pilot study, a section regarding the data collection, proposed analysis and the reliability and validity of the data. Finally, it will conclude with a statement regarding ethical approval and a conclusion.

As this research is of an exploratory nature, following pragmatic philosophy with abductive reasoning, it adopts the mixed research method. Data was collected from accredited hospitals in different cities in Saudi Arabia through interviews with hospital management which were grouped into multiple case studies and surveys that were distributed to the staff.

Furthermore, as this research follows the mixed methods research design, there are 2 chapters for the analysis, the qualitative analysis chapter (Chapter 5) will discuss the multiple case study approach, provide a discussion and thematic analysis of each case, then

cross-case analysis will be conducted. The analysis procedure was composed of transcribing the interviews, thematically analysing them, grouping the related interviews into case studies and conducting the cross-case analysis on the multiple case studies. Finally, the resulting themes that were added to the framework were themes supported by all the case studies.

Next, the quantitative analysis chapter (Chapter 6) discusses the sampling technique, the demographics and the validation of the questionnaire, which is followed by validity, reliability and correlation analysis. The analysis was conducted through SPSS and resulted in the three main themes, which are the three aspects of this research. This analysis provides evidence regarding the links between all three themes and how they are positively strongly related.

The discussion chapter (Chapter 7) links the analysis chapter to the available literature. It provides an overview of the findings, the practical and managerial implications of the current research framework, provides the final framework, discusses the new additions and supports them with the literature.

Finally, the conclusion chapter (Chapter 8) will provide a summary of the whole research, ensuring that the research questions were answered and the main research question has been solved. Moreover, it discusses the different research and theoretical contributions, which are followed with the limitations and provides recommendations for future research.

The current research assesses the impact of the alignment of accreditation, quality and performance management in Saudi hospitals. Furthermore, this chapter provides a background for the research intended, the outline of the current research, the aims, objectives and research questions that will guide the current research process.

The next chapter discusses the available literature on the research topic and the research gap the current research intends to fill.

Chapter 2 Literature Review

2.1 Introduction

This chapter helps focus the research in terms of existing findings, contributions and recommendations, while also highlighting the research gaps that the current research aims to fill. The review of the literature provides insight into the uses of performance measurement and its diversity. It examines the different methods and varied standards utilized in the health sector to achieve high quality of services, hence this chapter discusses performance measurement, quality in healthcare, and accreditation, which will be followed by explanations of how these three elements are aligned. Business databases were searched including ABI Inform, Business Source Premier and Gale News Vault. Moreover, the healthcare databases PubMed Central, EBSCOhost EJS, BMJ, AMED, OECD Health Data, Oxford Journals, Medline were also used. Additionally, some published reports and information were collected through the Joint Commission International (JCI), World Health Organization (WHO) Europe, Care Quality Commission and Saudi Arabia's Ministry of Health (MOH) websites.

The next section will discuss performance measurement in health accompanied by the different tools to measure performance, followed by the strengths and weaknesses of performance measurement.

2.2 Performance Measurement in Healthcare

Performance measurement is defined as a tool that aims to monitor, evaluate and communicate the extent to which a range of aspects of the healthcare system meet their key objectives and thereby ensures the quality of care (Boustani, et al., 2010). Moreover, performance measurement is one of the main concepts underlying this research because it is required for the evaluation of the organization and to check whether hospital goals have been met. It also provides the management with an overview of how the organization is performing while indicating areas of opportunity for improvement. Furthermore, at the organizational level, the quality department develops the performance measurement system to assess the performance of the hospital while, on the national and international level,

standards are set by professional independent organizations to monitor hospitals and check how they are performing against these standards.

Performance measurement is at least 250 years old, while the measurements and what is measured have changed, the intentions of obtaining data and information on clinical outcomes, have not changed, nor have the challenges associated with the measurements of quality in healthcare (McIntyre, Rogers and Heier, 2001 and Landon, Reschovsky and Blumenthal, 2001). Healthcare is a complex industry and implementing a performance measurement system is complicated, as it must meet the various demands of all the stakeholders (Loeb, 2004). One of its complexities lies in data collection, in which Florence Nightingale and Ernest Codman suggested the use of systemically collected data to measure performance from the 18th till the early 20th century; however, due to many barriers including professional resistance, the practicality of data collection and interpretation and the politics during that period, which includes the wars in Europe and the world, led to performance measurement not being included in any hospital policy (Papanicolas, Smith and Mossialos, 2008).

In England in the 1980s, performance measurement had been adopted by the healthcare sector to monitor performance, primarily to provide managers with reports regarding costs and resources (Papanicolas, Smith and Mossialos, 2008). Other countries, such as Canada, have developed the process to enable performance measures to support evidence-based strategy, to help with decision-making, health planning and accountability. Additionally, in Sweden, performance measurement was used to create databases that provide feedback to healthcare professionals, these databases required using risk adjustment statistics to ensure their accuracy (Papanicolas, Smith and Mossialos, 2008).

The importance of performance measurement stems from its ability to compare different hospitals that measure the same standards, its usage in controlling the internal activities of the hospital, and for improving the hospital's overall performance (Shekelle, 2008). Moreover, performance measurement is not only necessary for the health sector, but for the public sector as well. As such, the public sector requires accountability of hospitals and healthcare professionals, while on the other hand, it enables the health sector to monitor the developments occurring in other sectors that could be adopted to improve performance. An

example of a source of important developments is the technological sector which is vital for the health sector, since it provides tools that ease the collection of data as well as provide an interpretation for it (Papanicolas, Smith and Mossialos, 2008). Technology incorporation enables comparing data throughout the departments of the hospital, which results in providing a good performance management system. Thus, performance management systems support not only accountability, but reflect on the commitment to continuous improvement of healthcare, which if acquired by the government can lead to the development and implementation of a national performance measurement standard (Cheng and Thompson, 2006).

An example of the different approaches that have been developed to measure performance, includes scorecards, which are used to demonstrate an integrated healthcare performance measurement system. According to Weir, et al (2009) in 1992 Kaplan and Norton developed the Balanced Scorecard **(BSC)** as a strategic approach to align organizations goals and measures with the managerial strategic decision process. Other performance measurement tools include "Zorgbalans" reports, which are used in the Netherlands to link needs of the population with the quality of healthcare delivery, its costs and ease of access (Tawfik-Shukor, Klazinga and Arah, 2007). Furthermore, there is a variation of assessment tools utilized to act as performance measurement tools, which include surveys, implementing, developing and measuring standards, statistical indicators and external assessments such as accreditation (Verboncu and Ganescu, 2010).

The next section will discuss the different means to measure performances, either to measure the process or the outcome of care.

2.2.1 Process Versus Outcome Measures

As the interest in healthcare performance measurement has grown and the number and types of measures have increased, the need to establish consistency and purpose for these measures has become inevitable. Some indicators are available to measure processes, others measure outcome, some measure the accountability while others measure quality improvement, hence clarity in the purpose of the measurement is required (Press, 1997).

Accountability measures which are called 'report cards', have been developed to measure the overall quality of a process or hospital on a quarterly or yearly basis and are provided to external organizations (i.e. accreditation organizations or insurance companies) (Press, 1997). Moreover, accountability measures are based on four criteria, to be developed based on evidence based research, accuracy of measurements, to have few interventions prior to the outcome and to have little or no unintended consequences when implemented (Chassin, et al, 2010).

However, quality improvement measures are intended for the hospital itself to measure how individuals and departments are operating and identify the level of quality performances. They are conducted regularly, provide insight into the quality of the departments and detailed processes in the hospital to support accountability reports (Chassin, et al, 2010).

Hence, report cards provide an insight into the hospital and how it is run, to allow insurance companies the ability to develop their contracts and make decisions on financial agreements, while quality improvement measures provide insight into the hospital and the areas in need of improvement. Additionally, accountability measures and quality improvement measures can be incorporated in process measure and outcome measures.

A study conducted by Larson and Muller, (2002) discussed the history of quality assessment from the 1970s till 2002 and in their study the use of process and outcome indicators to measure performances was recommended. Additionally, Larson and Muller (2002) also stated how process measurement is usually benchmarked with national standards and they focus on the process of treatment, but have the disadvantage of being focused on the indicators internally in the hospital which do not incorporate accurate outcome measures. Likewise, Mant (2001) stated that process measures are adopted when the measurements are narrower and specific to procedures, individuals and departments; additionally, an advantage of process measures includes a focus on the indicators and ease of interpretation. Also, process measures follow the standards of care and are conducted on the specific processes, for example, referral rates and laboratory processes (Jacobs, Smith and Goddard, 2004).

Moreover, outcome measures are conducted on two bases: generic measures, which include

the patient's lifestyle, and disease measures, which focus on the outcome of a specific disease. These also allow the assessment of the cost effectiveness of treatments (Larson and Muller, 2002). According to Mant, (2001) outcome measures are adopted when measurements are required for aspects with a broad nature, as they can include other factors that are not strictly health related (for example, mortality from cardiovascular disease without specification of the reason of the disease). They also allow the measurement of the quality of care including processes that have been measured and others which have not been measured. Additionally, outcome measures are intended to measure the effect of the healthcare organization or the hospital on the patients' health. Examples of outcome measures include, mortality and re-admission rates (Jacobs, Smith and Goddard, 2004)

It has been stated that process measures are valuable when accompanied by outcome measures. When the intention is to measure technical skills, outcome measures are adopted and when technical measures are not the focus but instead the process itself, process measures are applied (Mant, 2001). However, outcome measures are not perfect indicators of the performance of hospitals and healthcare organizations as, according to Donabedian, (1966), the experience of hospitals is not the sole reason for the patients' health status and hence it is argued that process measures are more accurate than outcome measures when the intention is to measure the performance of a hospital (Jacobs, Smith and Goddard, 2004).

Outcome measures have been available for over 150 years in healthcare, they have been mainly adopted to measure the mortality (death rate) of patients. They were adopted by Nightingale to measure statistically the number of deaths in a military hospital, also they were adopted by Codman who investigated outcomes based on the medical records of patients, to assess the quality of care (Codman, 1914; Neuhauser, 1990; Bostridge, 2008). Another example is the Health Related Quality of Life (HRQL) scale which measures not only the direct outcome of care but also its effect on the symptoms, functionality and emotions of the patient. This scale was developed initially as a long survey but has been shortened in different ways, yet still maintained its validity and reliability (Stewart, Hays and Ware, 1988; Wilson and Cleary, 1995; McDowell and Newell, 1996; Ware, Kosinski and Keller, 1996). Furthermore, in 2004 the Patient-Reported Outcomes Measurement

Information System (PROMIS) was developed as an initiative which follows on the HRQL to measure the outcome measurements. Data is collected through an information system network which allows comparisons between clinicians and hospitals (Cella, et al., 2007).

An example of a process measure is discussed by Bottle and Aylin, (2007) that suggests the use of CUmulative SUM (CUSUM) charts as a tool that measures the outcomes of the processes and procedures which occur in the hospital, using statistics to detect trends. This tool produces graphs that are used as an evaluation and continuous improvement measure. Examples of its usage in healthcare include measuring lab processing times, rates of MRSA (hospital acquired infection) and mortality and morbidity rates (Sasikumar and Bangusha Devi, 2013; Woodall, Adams and Benneyan, 2012). Furthermore, CUSUM has been in the field of medicine for almost 35 years and by 2007 CUSUM was adopted by nearly 100 National Health Service (NHS) hospitals in England and was also used in several primary care trusts (Sasikumar and Bangusha Devi, 2013; Bottle and Aylin, 2007).

Thus, CUSUM charts can be utilised to help management decisions regarding performance improvement, in addition to ease of representation to the staff and patients (Bottle and Aylin, 2007). However, CUSUM also has some limitations which includes its measurement of only quantifiable aspects of care. It cannot assess interpersonal skills and, even though it is ideal for self-evaluation as it is objective, it faces difficulties with issues of privacy and external assessment of the hospital (Lim, et al, 2002). Hence, CUSUM is a tool adopted to measure consistency and changes in performance of hospitals. It has been praised for its objectivity and capacity for graphical representation which is an advantage when presenting to managers and is of positive use for physicians' self-assessment. Nevertheless, it faces resistance and privacy issues when adopted for external assessment as it does not incorporate interpersonal skills and could lead to negative results.

Thus, process measures are specific to the medical care provided to the patient to see if it is done according to the standards of care and medical procedures, also they are provided to the hospital to improve its processes and regular updates. While outcome measures are an assessment provided to external organization to ensure the overall quality of care provided by the hospital, they are reported quarterly or annually and are not definitive for measuring the progress of the hospital because this is affected by the patients' status prior to entering

the hospital and after leaving. The next section will discuss the performance measurement tools adopted in healthcare.

2.2.2 Performance Measurement Tools

There are various tools to measure performance including the star rating system, performance indicators, key performance indicators, structure and process related indicators, clinical indicators, total quality management (TQM), and the Balance Scorecard (BSC), all of which will be discussed in the next sections (Jacobs, Smith and Goddard, 2004; Neely, Gregory and Platts, 2005; Wongrassamee, Simmons and Gardiner, 2003).

Star Rating System in the United Kingdom

The star rating system was established in the UK in 2001 to provide the public with information regarding healthcare providers' performances in relation to government targets (Mannion, Davies and Marshall, 2005). Moreover, the star rating system rates hospitals in four categories, where three stars is a good performing hospital, two stars is a well performing hospital, one star is a hospital that gives rise to some concerns, while zero stars is given to hospitals whose performance is considered very low (Mannion, Davies and Marshall, 2005). Furthermore, an example of a target is that 75% of ambulance services should reach life-threatening situations in 8 minutes. This target was only met in England, hence Bevan and Hamblin (2009) questioned the effectiveness of the star rating system, as their research suggested that the star rating system was developed and adopted to cause reputational damage for less well performing hospitals. Additionally, Mannion, Davies and Marshall, (2005) discussed how zero rating directly affects the staff and management of hospitals in a negative way.

In the UK, the star rating system, which was started in 2001, ended in 2009 due to many problems with the response of hospitals to the targets set and the star rating system. These issues where discussed in a report published in 2003 by the Commission for Health Improvement (CHI) and was supported by many researchers (Bevan and Hamblin, 2009; Propper, et al., 2008; Patel, Chaussalet and Millard, 2008; Smith, 2002; Smith, 2005; Stevens, Stokes and O'Mahony, 2006; Willcox, et al., 2007).

One of the issues that was mentioned in the literature includes the selection of targets, which led to the selection of some over the others (Bevan, 2006). Another issue is the aggregation of the stars, as it is difficult to know how hospitals that received a three star rating could receive a two star rating later on without the support of precise measurements (Klein, 2002; Spiegelhalter, 2005). Moreover, the issues also included *gaming* which is conducted when hospitals tend to focus solely on meeting the targets (Smith, 1995) and also damaging the morale, as hospitals that performed badly demonstrated a decrease in staff morale and reputational repercussions, since hospitals that did not achieve a good star rating would experience a decrease in patient admissions (Horton, 2004 and Mannion, Davies and Marshall, 2005).

Despite many studies having demonstrated the effectiveness of the star rating system, the issues raised were of more weight that led to the discontinuation of this system in the UK (Bevan and Hamblin, 2009; Mannion, Davies and Marshall, 2005; Barker, Pearce and Irving, 2004). Although, the star rating system did not integrate well with the NHS, it has just started its infancy stage in the United States, as it was adopted in 2016 and produced two reports since then which seem promising. If the adoption addresses all the issues raised by the NHS system it could work for the US as the health sector is different in significant respects.

Performance Indicators

Another approach to measuring hospitals' performance started in the early 1980s and led to the development of performance indicators, which have the main purpose of linking accountability to improvement and would lead to a high quality of care delivered (van Dishoeck et al., 2011). Moreover, the notion of accountability was also mentioned in a study by Smith (1990) where it was stated that accountability is obtained through performance indicators as they represent the links between providers and consumers.

Additionally, performance indicators are considered vital for the public sector as they represent one of the limited means to compare performance and quality of care between hospitals (Siregar et al., 2012). However, there is always a disadvantage to linking performance indicators and costs for data collection and management as it is considered

expensive, in addition to the complication of subjective interpretations of indicators by management, staff and stakeholders (Siregar et al., 2012).

The analysis of performance indicators are provided to the public and reported to the stakeholders and national organizations, which has both a positive and negative impact. The positive impact is the attraction of patients when performance metrics are positive, while the negative impact is demonstrated when performance metrics are low as they affect the reputation of the hospital (Siregar et al., 2012).

Performance indicators have the advantage of providing a representation of the performance and quality of the hospital yet they have many limitations including: the hospitals' focus on the indicators selected to measure and the criticism hospitals face when they perform badly. In addition, there have been cases where hospitals have refused to treat difficult patients for fear of affecting their performance metrics (Siregar et al., 2012).

The following sections will discuss the most adopted indicators in healthcare that are incorporated in the current research which include Key Performance Indicators (KPI), structure and process related indicators and clinical indicators.

Key Performance Indicators (KPI)

When working with hospitals, the stakes are too high to implement performance measurements without evaluating and assessing their merits. Therefore, Key Performance Indicators (KPI) have been developed to pinpoint the performance indicators which are vital to the improvement of hospitals' performance. These KPIs are developed after evaluating the available indicators at the hospital to decide on the vital group of indicators which would lead to performance improvement (Adair *et al.*, 2006). Moreover, KPIs are a limited set of indicators which should be measured regularly, easily from a large sample and can be presented graphically for ease of presentation (Chan and Chan, 2004).

Additionally, KPIs can help with predicting costs and suggesting areas of improvement to the management to assist with making decisions, hence, Cai *et al.* (2009) suggested making specific relationships between the KPIs and their targets to enable efficiency of measurement; for example, to ensure efficiency in a supply chain which focuses on operations the KPIs should be linked to costs. Furthermore, another study conducted by

Shohet (2006) supports the above-mentioned study in the importance of KPIs for strategic decision making. Additionally, it has been stated by Ng and Harrrison, (2010) that KPIs, if collected on a national and international level, would provide the ability to benchmark with other hospitals.

However, KPIs still have the disadvantage of consuming labour time to collect and analyse and are financially sensitive (Chan and Chan, 2004). Moreover, KPIs are a tool to help the management with making decisions regarding the performance of the hospital and they do not offer solutions as they must be interpreted subjectively, have different experts could interpret the same measure differently (Cai *et al.*, 2009).

Structure and Process Related Indicators

Structure and process related indicators measure the physical and managerial structure of the organization and the processes of organization, whether medical or administrative processes. An example would include the healthcare operational effectiveness (HOE) system developed by Gomes, Yasin and Yasin (2010) "to measure, track and improve quality, availability and efficiency of the healthcare operational system" (Gomes, Yasin and Yasin, 2010, p.128). The HOE system provides the integration of performance measurement and the available literature and intends to provide an example of monitoring and improving performance. Moreover, the HOE was found to be of major importance for decision making in healthcare organizations, also it was supplemented with the belief that HOE systems provide a quantifiable aspect to the effectiveness of healthcare services (Gomes, Yasin and Yasin, 2010). Additionally, the combination of the various performance measurement approaches for a hospital in one system provides ease of analysis, representation and standardization of the processes, which would simplify performance measurement for the hospital staff.

Another example is a study focused on the integration of the different systems in the hospital which was conducted by Cheng and Thompson (2006) on Cancer Care Ontario (CCO) with the aim to link information technology to performance measurement. This study concluded that it is essential for information technology and performance measurement to be linked, as this would provide access to a range of data that enables cross

comparisons between areas and departments, and provide greater insight into reality. However, the CCO does have some limitations which include its measurement of only process indicators, its results only provide predictions of performance results and it is still in need to manage the risks and issues with data collection from the various hospitals that use the system in a timely and accurate manner (Cheng and Thompson, 2006).

Another approach would be to link the outcomes and processes of the hospital to be able to interpret the quality of care. Lindsay *et al.* (2002) recommended the use of modified-Delphi technique to identify links between outcomes and conditions of care while also demonstrating how quality of care is provided. The modified-Delphi technique is a process to develop indicators as it is justified with a literature review regarding the issues it is intended to measure and looking for conditions and outcomes of care. That is followed by the selection of experts to develop the indicators who should be specialised in the areas of interest (Hsu and Sandford, 2007). Following the selection of experts, a questionnaire is sent to the experts with a list of conditions and outcomes accompanied by the definitions for clarification, to pair the conditions and outcomes, and evaluate the effect of improvement as a result of the pairing (Hsu and Sandford, 2007).

Next, the development of the indicators is conducted based on the pairs of conditions and outcomes and a second questionnaire is sent to rate the indicators. That is followed by an expert panel meeting which discusses the indicators and decides on which indicators are the best to improve (Hsu and Sandford, 2007). After the meeting an analysis of the indicators is conducted through a specified system. In Lindsay et al. (2002) the system used is the National Ambulatory Care Reporting System (NACRS) as the study was concerned with the ambulance service.

Furthermore, Williams *et al.* (2006) conducted a nationwide study to find the common problems and causes for data quality and found that statistical data are subjectively interpreted, which makes it far from reliable and, in order to provide the public with accurate information, it is of the utmost importance to continuously monitor data quality and its reliability.

Clinical Indicators

According to NHS Quality Improvement Scotland, (2006) clinical indicators are tools adopted to provide a numerical figure that represents clinical care. If clinical indicators are related to quality then they can provide information regarding the quality of care; however, if they are focused on clinicians, the public or hospital managers then they provide information regarding performance improvement and accountability. Moreover, clinical indicators can be utilised on an international level when reported and compared with other hospitals in the form of accountability indicators, while on a national level they provide the public with information regarding the performance and quality of the hospital.

Furthermore, clinical indicators refer to indicators which measure the accomplishment of targets and the medical aspect of delivery of care. They can be in the form of structure, process or outcome indicators and are usually adopted to measure the performance of specific departments with indicators incorporating the clinical details of the department (Mainz, 2003).

It was noted that hospitals that incorporate indicators which integrate the interests of the hospitals stakeholders, such as management and staff, perform better; thus, the involvement of all who would be affected by the hospital in creating performance measurements would result in more comprehensive and cohesive measures. However, even with the involvement of all stakeholders, issues still arise including conflicts of interest between staff and management, which highlights how interests differentiate between different stakeholders and it is necessary to provide different assessment measures for each stakeholder (Tregunno *et al.*, 2004).

Total Quality Management (TQM)

Introducing performance measurement to any organization will introduce change, and any change that leads to optimising healthcare delivery is accompanied by a change and improvement to the hospitals' quality management system. Another change to optimising healthcare includes the development of the hospital and its departments, as each hospital differs in its structure, the services it provides and its quality of care (Duckers *et al.*, 2009). Moreover, Amaratunga and Baldry (2002) recommend the improvement of performance

measurement to the evolution of performance management and that the organizations should be prepared for change and should have a process for communicating this change. When these two tasks are accomplished the organizations would make effective use of the results of performance measurement and enable the transition from measurement to management.

According to Patel (2009) Total Quality Management (TQM) is a system that can be used to inspect hospital departments, provide feedback in a continuous manner and involve all staff and management to achieve customer satisfaction with low costs. It is adopted to ensure that high quality of care is delivered with lower costs while also improving efficiency. Additionally, as the overall concept of TQM is not new, since it was available during the 1800's in a form of calculating death and infection rates; however, currently TQM is adopted to gain and increase competitive advantage. Hence, hospitals that adopt TQM develop their quality management systems more rapidly than hospitals without TQM and integrating TQM with hospital rules and regulations can develop the hospital size and TQM system (Duckers *et al.*, 2009).

On the other hand, adopting TQM causes resistance from management as it requires empowering employees and allowing staff the time to train. Also, resistance from the staff occurs when TQM requires changing a norm of operation. In addition to resistance, it requires time and money to implement and sustain it in a constantly changing sector (Øvretveit, 2000).

Moreover, in Europe there have been different approaches to improving healthcare. One of these was developed on the same basis of TQM and that is the European Foundation for Quality Management (EFQM) approach. EFQM is a system developed by EU companies to focus on self-assessment, understanding the organizations' performance, identifying areas in need of improvement and ensuring that performance meets the expectations and needs of the customers (Wongrassamee, Simmons and Gardiner, 2003). Moreover, EFQM is adopted by many companies in the EU, including the Royal Mail, and its adoption in the healthcare sector has been the basis for many EU national quality award systems including the British Quality Foundation in the UK and the Dutch Quality Institute in the Netherlands (Nabitz, Klazinga and Walburg, 2000).

A study conducted by Nabitz, Klazinga and Walburg (2000) was concerned with the EFQM in the Netherlands and found that EFQM provides an opportunity for hospitals to improve on their services without undergoing external assessment or government control. Moreover, EFQM's credibility makes it a better choice for healthcare providers as it is neutral and is not only concerned with accountability but also with the process. Likewise, according to Shaw (2000) EFQM focuses more on management systems and in the last 10 years it has included outcome measures, clinical indicators, emphasised the importance of patient and staff satisfaction and lead to the development of a conceptual framework (the EFQM excellence model) based on Donabedian's model of structure, process and outcome.

However, EFQM is a generic system which lacks focus on many of the activities and departments of hospitals. Even though it incorporates organizational change in its theory it is still in need of specification of activities, time for training, development and implementation which also incurs costs.

Finally, as stated EFQM was based on the TQM model and focuses on the management of systems, however, Balanced Scorecard (BSC) focuses on the alignment of activities with the targets and has more flexibility for adoption to any sector (Wongrassamee, Simmons and Gardiner, 2003). Thus, the next section will discuss the BSC as a system used in healthcare to measure performances.

Balance Scorecards (BSC)

Kaplan and Norton (1992) developed the Balanced Scorecard (BSC) approach as a mean of management of finances due to it providing an overview of the organization's performance. The BSC is a system used in various industries to provide integration of organizational activities with the goals, while monitoring organizational performance and developing wider communication channels for the organization (Grigoroudis, Orfanoudaki and Zopounidis, 2012). The BSC is the most used tool to measure performance in healthcare as it is based on a template that includes the standards and indicators to measure against (Rigby, 2001). An example of a BSC performance measurement system implementation is a study conducted by Edward *et al.* (2011) which explores the application of BSC as part of Afghanistan's national system to measure performance

specifically in primary care centres between the years 2004 and 2008. This study shows that the application of BSC allows primary care centres to improve their performance which in turn shows how performance measurement systems can affect service delivery. Hence the BSC approach is considered to be a good guidance system for policies and procedures as it presents the internal processes and demonstrates how they are effective and efficient.

However, as measuring performances in healthcare is a major difficulty due to the complexity of healthcare, it requires the availability of a quality department which follows a system that aligns the organization's goal with its performance measurement. Another example of an organization that followed the BSC system is the Mayo Clinic in the United States where they applied performance measurement through aligning the BSC with the organization's goals and this resulted in a report which provides managers with the information needed to monitor the organization and verify the goals met (Curtright, Stolp-Smith and Edell, 2000). However, the issue of the complexity of data collection is still a limitation, and so is the dynamic system of performance measurement systems which require constant updates and, additionally, the inclusion of the various stakeholders and public reporting requires extra effort to simplify the analysis and make it easily understood.

Another example is the System Level Scorecards (SLS) which is an approach that indicates the performance of various hospitals or healthcare organizations to measure specifically internal activities, training and financial improvement; it is conducted through the distribution of BSC to hospitals which are part of the system. Yap *et al.* (2005) studied the adoption of SLS by hospitals as an initial step to creating institution specific scorecards. It was found that the bigger the size of the hospital the more likely it was to be open to adopting SLS early as it provides an insight into how the hospital is performing. However, although SLS provides a general view of the performance of the hospitals, it also has the disadvantage of generalizing the result and not distinguishing between hospitals (Yap *et al.*, 2005).

Additionally, it also has the disadvantage of hospitals reporting the general result of the system from the various hospitals as their own, while also focusing on the indicators in the SLS, to demonstrate a good performance conducted by the hospital. Also, Yap *et al.* (2005)

found that all hospitals incorporated in the study included specific indicators from the SLS that were related to their own performance in the BSC; hence SLS is a good starting point for adopting scorecards. On the other hand, as BSC is usually institution specific, Yap *et al.* (2005) discussed how institutional scorecards are developed by hospitals to measure how the hospital is meeting its objectives, to regularly update the measures, link performance to incentives and have a positive effect on staff and management morale. Thus, balanced scorecards that are developed with the cooperation of the consumers, quality department and management provide a balanced overview of organizational performance while also demonstrating the achieved goals of the organization (Raeisi *et al.*, 2012).

Walker and Dunn (2006) stated that BSC provides the ability to improve hospitals' performance for less cost and higher quality of care delivered, and also recommended that hospitals gather information on the implementation of BSC that would be customised to their goals. Each organization, when adopting performance measurement, follows national and international standards, but in order to meet these standards it has to meet the requirements of the population it serves, which leads to the development of institutionalized indicators to meet these requirements. Institutionalised BSC ensures that performance measurement matches the organizations' needs, goals and visions; hence, Mokkink et al. (2006) suggested the use of the Delphi technique to customize scorecards as it requires experts' help when the decisions on indicators are subjective and there is a lack of empirical evidence.

Another example in the United Kingdom is a study conducted by Shekelle and Roland (1998) with the aim of improving the National Health Service (NHS). It was stated that to be able to improve the system, the NHS would have to create indicators tailored to the needs of each hospital department. In this way the NHS took a step towards national improvement, which is considered an improvement in itself; however, this improvement still requires overcoming the difficulty of data collection.

Another approach includes the adoption of the Singapore Quality Award (SQA) framework which was developed to ensure high quality in Singapore's organizations as it aims to achieve business excellence. The SQA framework is composed of seven categories namely: leadership, planning, information, people, processes, customers and results. Additionally, it

has been adopted by hospitals to ensure high quality and in a study by Chow-Chua and Goh (2002) the SQA was integrated with the BSC and it yielded sustainable improvement in patient satisfaction and better inter-departmental communication.

2.2.3 The Strengths and Weaknesses of Performance Measurement

The strength of performance measurement lies in its use as a reporting tool of the hospital, that may include using composite indicators which are defined as an aggregation of many performance measurements into a score. This method offers the advantage of dealing with one score that would ease its use for interpretation and comparison, but in order for it to work efficiently it would require an immense amount of transparency and carefulness in construction (Profit *et al.*, 2010; Nolan and Berwick, 2006; Lied *et al.*, 2002). Likewise, in a study conducted by Goddard and Jacobs (2008), it was revealed that the more detail the performance measurement system provides, the more the link between the indicators and the rules and regulations is transparent and that could be accomplished and demonstrated easily if composite indicators were adopted. Moreover, Kruk and Freedman (2008) noticed that the literature available on hospital performances discussed the improvements of hospitals without discussing the improvement of the processes. Hence, this led to the development of a framework to evaluate performances of healthcare organizations through inspecting equity, effectiveness and efficiency of organizations, which also allows comparison of organizations.

Another example of performance measurements' ease of reporting is a study by Mor, et al. (2008) which discusses performance measurement in a long-term care facility and demonstrates that performance measurement provides a great range of detail that could be of great help for formulating policies and providing feedback on performance, while also suggesting that applying performance measurement improves healthcare delivery. For example, the Netherlands has a national institute, the Health Care Inspectorate (NHCI), which establishes a set of national performance indicators to ensure the quality of care and measure performances at the different hospitals in the Netherlands. This study concluded that performance indicators and quality of care are significantly improving and provides a suggestion of using random variations to select the hospitals that would be assessed, as it is

of crucial importance to evaluate individual hospitals randomly to be able to provide a reliable outcome (van Dishoeck *et al.*, 2011).

The previous studies all indicate the positive aspects of performance measurement and its effect on healthcare. However, healthcare is still a complex process, as shown by Wilkinson's (2000) observation that decision making may not involve all the required healthcare providers and suggests that evidence based performance indicators be used due to their credibility and ability to provide equality of care. While, Weir *et al.* (2009) states that with time staff would become involved and comprehend performance indicators and this would become a valuable source of information. Performance measurement deals with patients and affects their quality of life, and as the measurements should be made for different processes and outcomes of healthcare, they are influenced by several factors related to the patient, environment and the hospital. Moreover for physicians, performance measurement has become an issue especially in cases where exceptions to measurement are necessary and they should be able to make the choice when measurement is linked to payments and finances. For some measures, some medical associations recommend to not follow measures that do not contain risk analysis as they could be considered a waste of resources and could harm patients (National Quality Forum, 2010; Greets *et al.*, 2008).

Although performance indicators are created to improve performance they do present several weaknesses. Performance measurement is becoming a part of the process of healthcare improvement, but it has been criticised because hospitals that perform well and are improving do not necessarily provide good care (Hayward, 2007). According to Powell *et al.* (2011), performance measurement is faced with much criticism from physicians since conducting the measurements and completing the indicator requirements limits the time that should be spent with patients and moves the focus to completing forms and checklists rather than treating each patient individually. Werner and Asch (2007) agree with this statement as they believe performance measurement leads to its goals when applied to measure care, but it is still in its early stages and has not yet been developed so as to allow improvement of personalised care.

A study conducted by Brennan *et al.* (2012) discussed the appropriate process to select measurement systems and found that usually measurement systems are chosen based on

practice not theory. Hence, it was recommended to explore the approach of selecting performance measurement systems as it holds a direct effect on achieving the goals of the organization. Additionally, Bowen and Kreindler (2008) believes that issues can occur when hospitals try to implement processes to follow national measurement policies when the internal indicators should be adopted as a tool to aid decision making. Another study conducted by Hayward (2007) stated that improvement in performance does not directly mean improved outcomes and healthy patients which is related to not only using performance measurement as a decision-making process rather than a tool but also measuring performance requires a lot of human, financial and time resources in which hospitals would face financial problems to sustain if not prepared for it.

Furthermore, pay for performance is increasingly used worldwide to incentivize the use of performance measurement and it is defined as "Transfer of money or material goods conditional on taking a measurable action or achieving a predetermined performance target." (Oxman and Fretheim, 2008, p2). Some of the unintended consequences are known already which include fragmentation that is a result of reducing continuity of care as the provision of care is distributed through many channels and moves the sole focus of healthcare providers on measures and indicators with incentives (Roland *et al.*, 2006). Moreover, Loeb (2004) questioned the value of measuring performances, in which the study discussed how the addition of performance measurements incurs costs especially for data collection which requires documentation, that is, acquiring the data through the medical records and looking for new indicators to measure. Nevertheless, evidence regarding that improvement of care as a direct result of performance measurement has been discussed variously by researchers.

As with every aspect of measurement, there are advantages and disadvantages that are associated with it. The literature suggests several ways to facilitate the use of performance measurement which includes following the patient's journey throughout the hospital process through examining the medical record. This could also be conducted to allow validation and evaluation of the performance measurement system (Werner and Asch, 2005).

Other approaches include the involvement of the hospital staff with the management when implementing the performance measurement system, also developing indicators to measure the provision of extra treatment when not needed compared to only focusing on when treatment is not provided. Also, another approach includes the development of indicators to measure hospital staff behaviour while providing treatment and adding it as part of the celebration of good performance measurement when releasing healthy patients (Powell *et al.*, 2011).

2.3 Quality in Healthcare

Quality is defined by the international organization of standardization (ISO) (1990,6) as: "The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs" (van Campen, et al., 1995, p110). This section will discuss the following aspects of quality: 1) quality indicators, that are developed to meet the standards set by the organization or for accreditation purposes; 2) quality improvement, which looks for areas of improvement and continuous monitoring; and 3) quality management, which includes reporting to the management, government officials, the public, the World Health Organization (WHO) and accreditation organizations.

Figure 2.3 demonstrates how the three areas of quality are interlinked and continuously connected, as the indicators lead to the improvement and the management is required to sustain the improvement and seek new indicators.
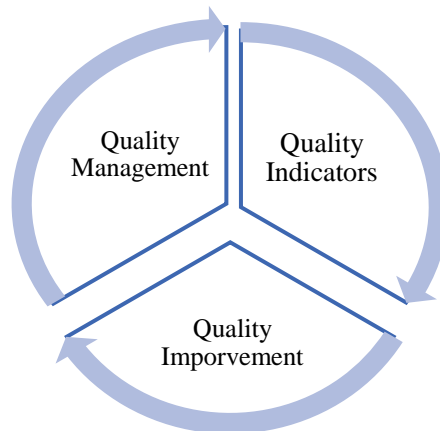
Figure 2.1 Quality in Healthcare Illustration as Followed in The Present Research

Source: The Researcher

2.3.1 Quality Indicators

Quality indicators are another aspect of performance indicators which are related directly to quality and improvement. A study conducted to measure the improvement of hospitals between the years 1998-1999 and 2000-2001 by Jencks (2003) found that hospitals which perform badly at the initial stage of implementing quality indicators achieve the most significant improvements later on compared to those that performed better initially. This study also found that most quality indicators developed by Quality Improvement Organizations (QIO) are not available in some hospitals according to a random sample of patients' records. Hence, as collecting data requires resources and finances, Corriol *et al.* (2008) suggest testing medical records with four quality indicators that would show the reliability and feasibility of the hospital. The four indicators are record conformity, traceability of pain assessment, screening for nutritional disorders, and time elapsed before sending discharge letters. Moreover, the study resulted in minimizing the time for data collection as the indicators were standardized; however, clinical indicator extraction from medical records requires physicians, which leads to more cost for data collection, in addition to the constant development of indicators which will require time and effort to update and implement.

Also, a study conducted by Jha *et al.* (2003) compared performances based on quality indicators from 1994 till 2000 in two sets of hospitals in the United States and it was noticed that improvement was more consistent and higher at the hospital which adopted performance measurement earlier and had the culture of performance measurement already established. This demonstrates the correlation between performance measurement and quality indicators and provides a direct link which shows how performance measurement can lead to better quality indicators. Additionally, quality indicators which are part of a set of indicators that are well-defined can lead to improvement in quality.

Moreover, quality indicators are adopted to measure the quality of care. Some examples adopting quality indicators include: The Organization for Economic Cooperation and Development (OECD) Health Care Quality Indicators (HCQI) Project and the COordination for Measuring Performance and Assuring Quality in Hospitals (COMPAQH) project.

The OECD Health Care Quality Indicators (HCQI) project is conducted to measure quality of care of various diseases in more than one country (23 countries were involved), which is a first attempt, as there are projects which examine the spread of one disease in many countries or investigate one country and its various diseases (Ramirez, 2005; Mattke, Epstein and Leatherman, 2006; Garcia Armesto et al., 2007). Moreover, the HCQI project inspected 5 areas namely: cardiac care, diabetes care, mental health, primary care and prevention and patient safety, and resulted in the development of 86 indicators that were selected based on the criteria of importance and scientific soundness (Garcia Armesto *et al.*, 2007). The indicators developed were precise and were inspected for their adoption across countries, which provides a sense of standardization that allows achieving quality results more easily and faster. The HCQI Project demonstrated that the mean to measure quality of care can be achieved on an international level; however, it lacks the financial resources to update the quality indicators and collect data (Mattke, Epstein and Leatherman, 2006).

On the other hand, the COMPAQH project which is a French project to develop quality indicators on a national level to decrease the efforts of data collection based on medical records, the project found that the main issue for the adoption of quality indicators and standard was the misinterpretation and misunderstanding of the staff to the standards. Another issue included the difference between the national hospitals and their adoption and compliance with the quality indicators, hence, it was believed that utilising medical records to meet quality indicators is a useful method to compare, benchmark and collect data easily between hospitals (Corriol *et al.*, 2008). Thus, the next section will discuss quality improvement which is the required result of quality indicators.

2.3.2 Quality Improvement

Quality improvement is a term that has been used since the 19th century, starting with the importance of washing hands (Marjoua and Bozic, 2012). Nowadays, it is not unusual to see hand sanitizers in every governmental and educational building, as well as commercial malls, and, of course, in hospitals and any healthcare related building.

As stated previously, having a properly devised set of quality indicators can lead to improvement; however, there are several other means of achieving a higher standard of quality. For example, a mean to measure or assess quality improvement is demonstrated in

a study done by Nelson *et al.* (2006) which states that caregivers need feedback on their performance from measures that are evidence based. The authors recommend reviewing medical records as they could reveal opportunities for quality improvement. Hence, providing feedback could be an incentive for physicians to improve their performance. Additionally, Cohen, et al. (2008) explored the quality improvement initiatives at hospitals in 2006, at a number of hospitals and concluded that quality improvement is a continuous cycle that requires time to improve, which supports Nelson et al.'s (2006) study.

Moreover, Sunol, Garel and Jacquerye (2009) noticed that the most adopted strategy for quality improvement is through external assessment (accreditation) and the least is patient involvement in quality improvement activities. On the other hand, Lombarts *et al.* (2009) focused more on quality improvement adoption in European hospitals as part of the Methods of Assessing Response to Quality Improvement Strategies (MARQuIS) project, which is a project concerned with patient movement between EU countries. This study found that the quality improvement strategies were strongly adopted in the European countries involved in the study. Additionally, it was stated that different hospitals adopt different approaches and implementations of quality improvement strategies, which provide a good example to incentivise other hospitals and countries to adopt quality improvement (Lombarts *et al.*, 2009).

Another study conducted to measure quality improvement activities in 2006 focused on the staff and quality managers' perception of quality improvement which stated that quality management has increased immensely and staff are incorporating it in their daily work as it becomes part of the organizational culture (Cohen *et al.*, 2008). This study also noted that quality managers were not only responsible for quality improvement, but had other tasks to perform, including measuring performance and risk management. When managers were asked if their organization had improved the quality of care, most quality managers stated that quality had improved over the years and had been showing a positive impact on the quality of care (Cohen *et al.*, 2008). Thus, this shows that whereas quality indicators can lead to quality improvement, this aim can only be accomplished with the availability of quality management which will be discussed in the next section.

2.3.3 Quality Management

Quality improvement can be achieved through involvement of staff and management, which indicates that quality management is important to preserve the standard of quality in hospitals. A study conducted by Weiner et al. (2006) found that a high percentage of staff and top level managements' commitment is needed to design quality indictors which, in turn, will improve the level of quality. Additionally, according to Solberg (2007) a goal oriented change that has management backing and involves the whole organization would lead to improvement. As indicated earlier in Figure 2.3, it can be inferred that quality management, indicators, and improvement are interlinked and form a continuous cycle, in which the inclusion of all factors leads to better healthcare. Moreover, it has been stated by Vora (2002), that organizations which apply quality management achieve better customer and employee satisfaction, accompanied by improved organizational performance, which effect the finances of the organization.

Quality management is conducted in different models, with each model demonstrating a more detailed approach for achieving better performance and these include:

- Customer-supplier relationship, where it is concerned with focusing on internal and external relationships to achieve better organizational and financial performance (AT&T, 1988).
- Deming's cycle, which focuses on plan, do, study and act, to measure continuous quality improvement (Suarez, 1992) (see also Section 6.6).
- Quality management model, which indicates that a happy employee results in performance improvement and satisfaction of the employee and the organization. This leads to the development of Total Quality Management (TQM) which considers 7 aspects of quality namely: leadership, strategic planning, customer and market focus, information and analysis, human resource focus, process management and business results (Covey, 1990; DePree, 1989; Magee, 2000).

Moreover, the tools that are adopted for quality management are developed through benchmarking (a comparison with what is available in the market), followed by brainstorming (providing ideas and thoughts on the problem in hand), then Cost of Quality (COQ) (where waste is quantified), accompanied by the Pareto principle (shrinking down

the possible issues or problem to the more important ones) and root-cause analysis (the approach conducted to find one solution). Furthermore, as the focus on quality in healthcare increases, hospitals tend to adopt TQM and Deming's cycle for quality management purposes as it follows from Donabedian's structure, process and outcome model (see Section 6.6) (Vora, 2002).

2.3.4 The Strengths and Weaknesses of Quality

Quality indicators, improvement, and management allow the monitoring of various hospital activities. For example, to monitor substance abuse two approaches are adopted, either using evidence based measurement as suggested by McCorry (2007) or adopting the concept of quality management, as it helps with competition and demonstrates areas of opportunities which are discovered through quality indicators that meet the goals and objectives of the organization. Additionally, quality management produces quality improvement initiatives which are required to sustain customer and employee satisfaction and gain recognition nationally and internationally (Rapert and Babakus, 1996).

Many attempts were made to improve quality and performance two of which are pay for performance and public reporting. Pay for performance is an approach adopted by hospitals in the UK and the US that allows hospitals to receive payment as a reward for quality improvement. It is usually adopted to encourage staff to follow quality and performance indicators and achieve quality improvement (Sisk, 1998). An additional approach is public reporting which is publishing the hospital's current quality standards to the public which leads to better transparency (Fung *et al.*, 2008).

The public reporting of hospitals' performance and quality approach, which is a concept of providing the public with information on the quality of care to patients, insurance companies, suppliers and to the healthcare providers themselves. It is provided in two ways, one of which reports the outcome of care and the second reports the process of care, and in both cases, it demonstrates accountability and trust (Werner and Asch, 2005). However, public reporting can also have an adverse effect on patients' preferences for hospitals, since the quality rating will affect their decision to visit the hospital or not. It can affect their trust

that was built with hospitals and physicians, which could cause distrust in the hospital and its healthcare workers if the report were negative (Faber *et al.*, 2009; Britto *et al.*, 2004).

These approaches require extensive planning and comprehensive efforts to develop (Sisk, 1998; Grimshaw and Russell, 1993). These programs have been proved to be successful but unintended consequences can occur in any program and cause an increase in costs or they can cause management problems and difficulties. However, to overcome these issues proper planning is required to enable the identification of the difficulties in the early stages, as they could occur due to performance improvement or to the changes that are brought about by the improvement.

The literature is in agreement about the benefits of quality in healthcare and also that it is difficult to implement. For example, a major deterrent is physicians' resistance, where it has been stated that physicians would spend more time on filling out the requirements for quality improvement and that would detract from the time allocated for the patient (Granata and Hillman, 1998). Also, these requirements include not just time, but a lot of resources and financial restraints. Moreover, although quality management could help with cost reduction of the outputs it does not decrease the costs of the process itself, but could actually increase it (Granata and Hillman, 1998). Another consequence would include the equal distribution of resources, which causes inequality of healthcare delivery as different populations and areas require different resources (Phelan *et al.*, 2004). Another consequence to consider is found in a study conducted by Lester, Hannon and Campbell (2011) which is the environment, as it is important to note that some environments could have more serious illnesses than others and some quality measures may not take that into account, as they are developed to be generalized.

Additionally, quality measures could cause measure fixation, where physicians focus moves from patient care to follow what is intended to be measured, and also following measures could block innovation as the focus is intended only to be on the measures (Lester, Hannon and Campbell, 2011; Smith *et al.*, 2007; Mechanic, McAlpine and Rosenthal, 2001; St Peter *et al.*, 1999). Another consequence would include tunnel vision, which causes neglect of care for certain aspects and focus only on the aspects of care that are included in the measures. Furthermore, another negative consequence is gaming which

is defined as the strategic process of manipulation of performance to gain advantages from the loopholes in the system while not improving the performance in reality (Holmstrom and Milgrom, 1991; Baker, 1992; Smith, 1995; Courty and Marschke, 2004; Fisher and Downes, 2008). Moreover, gaming is conducted especially when physicians include exception reporting as these exceptions are not considered part of the measures (Gillam and Siriwardena, 2010). Gaming includes the treatment of patients according to the measures even if not required, it could also refer to not reporting of patients who missed the targets (Doran, et al, 2006; Gravelle, Sutton and Ma, 2007).

However, it should be noted that regardless of the limitations of quality measures, the main drawback is in measuring and implementing quality metrics and not the merit of measuring quality (Stewart, et al., 2000). As such, the literature agrees on the importance of quality standards, but methods and tools for measuring it are in contention. To smoothly facilitate quality measurement, all stakeholders need to be involved while developing quality indicators. Also, all previously listed drawbacks that might be faced should be considered. Similarly, to ensure high quality of care, measurements should be sophisticated and transparent which provides clarity to these measurements (Baker and Qaseem, 2011). This leads to the next section, which elaborates on transparency and international standards related to both quality and performance of healthcare providers.

2.4 Accreditation

Accreditation has been defined as "an external evaluation mechanism, which assesses the performance of healthcare organizations through investigating their compliance with a series of pre-defined, explicitly written standards" (Jaafaripooyan, Agrizzi and Akbari-Haghighi, 2011, p.645). It is important to be able to measure and report performance as it is a mean for public awareness of the healthcare institutions quality level and it also provides competitiveness between hospitals. Moreover, accreditation could affect the financing of hospitals, as accredited organizations tend to attract more patients and more insurance companies would collaborate with them. Hence, accreditation has become an essential requirement, as it provides hospitals with the ability to improve their quality through measuring performances that are publicly reported afterwards.

Primarily performance measurement in healthcare began in 1754 at Pennsylvania Hospital, where it started by collecting patient outcomes and categorising them into groups by diagnosis. In 1918, the American college of surgeons developed standards for care and started surveying hospitals to measure how they met the standards, which lead to the beginning of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in 1951 that is now called the Joint Commission International (JCI) (McIntyre, Rogers and Heier, 2001). There are different organizations that offer accreditation; the ones considered in the present research are shown in Table 2.1.

Pomey *et al.* (2010) analysed how accreditation helps organizations change and improve their quality and found that the environment of each organization is of major importance for any change to occur. Also, it was found that accreditation is not a system that looks for errors only but it also highlights areas for improvement. Thus, this study concludes that even though accreditation is a valid external assessment scheme, it also provides the ability to learn about the organization from an external, professional point of view.

Another study provided a comparison between different accreditation organizations and found that the Joint Commission International (JCI) followed by the Canadian Council on Health Services Accreditation (CCHSA), are the most widespread accreditation programs. However, the authors suggest that each health care organisation should choose an accreditation organization that would be a mean to its goals and meet the needs of the population it serves, as accreditation standards are generalizable (Tabrizi, Gharibi and Wilson, 2011). Jaafaripooyan, Agrizzi and Akbari-Haghighi (2011) also studied the importance of choosing the right accreditation system and concluded that the best choice stemmed from adopting the most appropriate set of performance measurements for the hospital. Moreover, to develop an effective and efficient national accreditation program, Alkhenizan and Shaw (2011) state that it is essential to provide the process of developing the accreditation program clearly to allow replication and ease of use for the users.

Table 2.1 Accreditation Organizations

Accreditation Organizations	
International Society for Quality in Healthcare (ISQua)	ISQua offers the International Accreditation Program (IAP) that accredits accreditation organizations through measuring their standards. It provides training programs and processes to meet the international accreditation benchmark (The International Society for Quality in Health Care, 2007).
Joint Commission International (JCI)	The JCI is a voluntary accreditation organization in the United States that offers accreditation through measuring quality and patient safety of hospitals. Similarly, it provides leadership and innovative solutions to accredited organizations (Joint Commission International, 2014).
Central Board for Accreditation of Healthcare Institutions (CBAHI)	CBAHI is the national accreditation organization in Saudi Arabia, it is one of the organizations that are accredited on its standards by ISQua and it provides accreditation to healthcare organizations (Central Board for Accreditation of Healthcare Institutions, 2011).
The Australian Council on Hospital Standards (ACHS)	ACHS is a voluntary not for profit accreditation organization, it develops the standards of care for Australian healthcare institutions. This organization's standards are divided into 18 sections, each section covers a department, which is a unique feature of the Australian accreditation (ACHS, 1978).

Source: Researcher.

The introduction of accreditation has introduced major changes to the healthcare sector and environment, as now hospitals' main reasons for acquiring accreditation is to be able to meet standards and demonstrate that management decisions are meeting targets. Other reasons include how surveys introduce changes to the hospital and managers, and enable

managers to monitor these changes as a requirement to survive and compete in the market. Additionally, it also introduced individuality to departments as each head of department has the responsibility to meet the standards required by that department and discuss them in inter-departmental meetings. Hence, several authors believe that understanding accreditation provides confidence and that accreditation is linked to beneficial change and professional development (Greenfield and Braithwaite, 2008).

Other favourable outcomes of accreditation include the act of public reporting of hospitals' performance which, in turn, increases the hospitals' performance rates (Fung *et al.*, 2008; Hannan *et al.*, 1994b; Hannan *et al.*, 1994a; Dziuban *et al.*, 1994). Public reporting is usually adopted to provide accountability and improvement while ensuring enhancement in healthcare delivery; nonetheless it is of major importance to ensure it is designed carefully to avoid gaming of performances by providers. Thus, it has been suggested to link performance to financial incentives, in order to ensure improvement and decrease gaming, yet many issues can surface that would only be avoided if the system was carefully developed, implemented and evaluated (Papanicolas, Smith and Mossialos, 2008).

Public disclosure of accreditation scores provides the public with confidence in these hospitals, which is supported by Ito and Sugawara (2005) where it was noted that public hospitals tend to publicize their scores more compared to private hospitals; likewise, large hospitals publicize their scores more than small hospitals and it was concluded that public disclosure usually leads to high accreditation scores, accountability and quality improvement. However, the authors hold the belief that the effect of public disclosures on the different stakeholders has not been studied and could make a difference (Ito and Sugawara, 2005). The current research addresses this issue as it considers the perception of managers and staff. Moreover, accreditation has an effect on organizations and according to Braithwaite *et al.* (2010) accreditation has a direct link to clinical performances which are self-reported; also, it has an effect on organizational culture, leadership and involvement of stakeholders.

However, accreditation and its impact on hospital has been reported by many studies with different view, some support accreditation which include DeBritz and Pollack (2006) that discusses how accreditation and rating of trauma centres have decreased death rates and

resulted in improved outcomes of care. Moreover, Salmon et al. (2003) found that hospitals undergoing and achieving accreditation, report improvement in their performance. Additionally, accreditation has shown a positive relationship with professional development (Tracey, Arroll and Richmond, 1998; McCleish, 2002; Dickison, et al., 2006). Furthermore, Braithwaite et al. (2011) found that accreditation has a positive impact on clinical performance.

However, other researchers oppose accreditation including Nicklin and Dickson (2009) which argues that the cost-effectiveness of accreditation and its quantifiable effect on improving healthcare is still questionable. Moreover, Greenfield and Braithwaite (2008) conducted a systematic literature review on accreditation and found inconsistent findings with regards to accreditation and its link to improvement and the effect of accreditation on hospitals, hospital staff, quality and finances. Additionally, Miller et al. (2005) and Snyder and Anderson (2005) argue that there is no link between accreditation and quality indicators. Furthermore, Ghali, et al. (1997) questioned the effect of accreditation and public reporting, as hospitals in two different cities, one with reporting requirements and the other without, where both experienced a decrease in the death rate.

Nevertheless, most researchers do not agree with this assumption and an example of that is the Cardiac Surgery Reporting System which was the first system to showcase outcomes of care to the public. The adoption of this system demonstrated an increase in hospital performance improvement after reporting (Chassin, 2002; Peterson *et al.*, 1998) which is probably why there is a proliferation of both national and international accreditation programs. In a study that investigates how well accreditation is carried out and how it affects the health care sector, it was recommended to consider each health care provider's culture and behaviour in developing the standards (Braithwaite *et al.*, 2006). An example of a national accreditation development program would be Lebanon, which has developed its own national performance indicators that are linked with the national accreditation scheme. This accreditation program developed 40 indicators from its pilot and resulted in a voluntary accreditation organization that was developed to accredit healthcare centres (El-Jardali *et al.*, 2011).

An example of under-development of national accreditation programs according to Alkhenizan and Shaw (2010) is the Central Board for Accreditation of Healthcare Institutions (CBAHI) which is the Saudi national accreditation program. The study was conducted to compare the CBAHI standards to the ISQua requirements for accreditation, as ISQua is the international institution which certifies accreditation organizations and their standards (The International Society for Quality in Health Care, 2007). The study faulted the CBAHI for not providing access to the process of developing the accreditation program and how the standards are quantifiable and measurable. Therefore, Alkhenizan and Shaw (2010) believe that assessing national accreditation programs provide areas of improvement, showcase areas of strength and allows replication to other countries.

An example of an international accreditation program is the Australian Council on Hospital Standards (ACHS), which is similar to all accreditation organizations in being voluntary and a not for profit organization that develops the standards of care. This organization's standards are divided into 18 sections; each section covers a department, which is a unique feature for the Australian accreditation. From 1974 till 1981, 145 out of 217 hospitals in Australia became accredited. The surveys are conducted by medical professionals and then followed by a report on the hospital's assessment provided to the hospital and the council, describing how it met the standards in addition to the recommendations for improvement (ACHS, 1978).

Reports that are produced after accreditation provide a view on how hospitals prepare for accreditation and the changes that occur after obtaining accreditation which require the work of the whole hospital. In a study by Carson and Ames (1980), hospital managers stated that the changes that occur after accreditation improve and increase quality of care, in addition to organizational change and committee development which provides a framework for an improved healthcare delivery.

2.4.1 The strength and weaknesses of Accreditation

The main objective of accreditation is to improve quality of care while providing recognition for meeting standards (Jovanovic, 2005; Hirose *et al.*, 2003). Accreditation is being adopted by hospitals to create a culture of accreditation, as stated in a study by

Madamala *et al.* (2012) where it was found that most hospitals already have a performance measurement system and quality improvement strategies and processes in place, and that the majority of hospitals support the notion of accreditation and would apply for it in the first two years. Hence, it was concluded that accreditation does affect hospitals positively and that it is a valued asset that many hospitals endeavour to acquire and achieve. Additionally, understanding accreditation provides confidence and while going through the literature it was noted that accreditation is linked to change and professional development, yet many aspects of the effects of accreditation have not been empirically examined in the literature. For example, the professions' perception of accreditation and quality measures linked to program assessment, are relationships that still need to be addressed (Greenfield and Braithwaite, 2008).

Implementing accreditation is conducted in different stages and it has been noted that each stage requires different changes to occur in the organization. This supports the previous notion of how accreditation does not only show areas for improvement but also credits areas of good performance (Pomey *et al.*, 2010). Thus, accreditation provides a good insight for evaluation and education purposes (Duckett and Coombs, 1981). Likewise, Jaafaripooyan, (2014) states that accreditation's advantages have been largely agreed on in that it ensures the structural building of the hospital in meeting safety and security standards and provides standardization for processes and procedures. Also, some of the advantages of accreditation are the documentation of policies, procedures, job description and manuals that are developed through the committees which provide organizational and educational benefits. It also provides a sense of unity and responsibility as each standard is for a different department and meetings between departments provide areas for feedback and improvement which include all the staff.

However, most changes occur prior to the external assessment when hospitals prepare for evaluation, which is used as a tool for managers and department heads to know what is overlooked in their respective departments. As mentioned, accreditation causes change to the hospital and this change does not necessarily increase accountability although it provides predictions for the future (Jaafaripooyan, 2014). As accreditation is a tool to measure the quality of the hospital based on the accreditation standards, it can only provide

insight related to the standards provided. Any aspects not incorporated in the assessment are overlooked; however, international standards are updated regularly to include the various aspects of healthcare delivery.

Some accreditation recommendations are easy to administer, like documentation and safety requirements while others that depend on the nursing department are more difficult to implement due to most of the load of the accreditation process being placed on them. To explain this more, a study conducted by Duckett (1983) divided the areas that accreditation affects into six areas, which include the leadership of the organization, medical and nursing staff in addition to the physical structure of the hospital and its various internal systems of feedback and policy. The first two of those aspects will be discussed as they are the aspects incorporated within the scope of the current research.

The first effect is the effect on management; accreditation makes changes in reporting, meetings and the structure of the organization, as it provides more meetings with staff even after accreditation to maintain it. However, the most vital changes occur when it comes to documentation and ensuring all documents are clear and available. Also, accreditation provides an improved structure and organization to the hospital in showing how activities are divided between healthcare workers and how it is heavily dependent on some more than others, such as nurses (Duckett, 1983). The second effect is accreditation's effect on medical staff since accreditation helps with forming committees that deal with different issues in the hospital from different departments which improves the organizational culture and meetings are conducted more often that provides a better means to communicate between management and medical staff. Hospitals with accreditation tend to improve their services and communicate with better structure and organization than other hospitals (Duckett, 1983).

However, regardless of its many benefits, the accreditation movement is still under scrutiny for its costs and tangible benefits. Also, lack of studies discussing these issues has made it difficult to know how its value compares with its costs (Ovretveit, 2009; Greenfield and Braithwaite, 2008; Pomey *et al.*, 2004). The disadvantages of hospital accreditation that have been mentioned by many studies were gathered in a study by Jaafaripooyan (2014) where the author stated that accreditation includes extra workload on healthcare workers for

accreditation purposes, while also moving the focus from caring for patients to following standards. They also conclude that there is no integration between the different hospital systems and quality measures leading to confusion and inconsistency. Moreover, accreditation needs to be constantly updated to meet the objectives and the opportunities for improvement (Jovanovic, 2005; Hirose *et al.*, 2003).

Another disadvantage emerged from studies which was the subjectivity of the surveyors as the accreditation is based on their decision, which could cause questioning of the validity of the assessment (Jaafaripooyan, Agrizzi and Akbari-Haghighi, 2011; Scrivens, 1993; McAlary, 1981). The questioning of the accreditation assessment is called the 'ossification effect' and that is demonstrated when healthcare workers tend to stick to the routine requirements to meet the standards without trying to innovate or use new approaches to deal with patients or processes in the hospital (Jaafaripooyan, 2014; Kelman and Friedman, 2009). Another disadvantage is the cost of developing an accreditation program, as well as acquiring and maintaining accreditation by hospitals, which is an obstacle that many hospitals face. This includes the costs of training the staff and surveyors, which includes taking time away from what is allocated for the patient to prepare for accreditation and implement changes (Miller, 2009; Shaw, 2004; Pegg, 2003; Buetow and Wellingham, 2003; Hanchett, 2001; Decker, Strader and Wise, 1997; Bohigas *et al.*, 1996).

Additionally, accreditation also causes an issue of involvement as it should involve different representatives from all stakeholders, to develop the standards of care (Nandraj *et al.*, 2001). However, medical staff have always been resistant to accreditation as they assume it has little to do with their work and that is the constant issue faced by hospitals. An example would include the innovation of "Integrated Notes", which provides standard notes for all healthcare workers dealing with a patient, but that was faced with non-cooperation from the medical staff (Egleston, 1980). Nevertheless, it should be noted that accreditation is a first step in self-assessment and that the closer the survey gets, the less resistance occurs, as it affects the overall feeling of the hospital through providing a sense of unity when the surveyors arrive. Even though medical staff may still be divided on the merit of acquiring accreditation they would still work on any standards or recommendations

needed that are relate to their work. This is how it also links the staff, especially the medical staff with management.

2.5 Alignment of Performance Measurement, Quality, and Accreditation

As the world is going through a wave of changes in the economy, government, demographics, the environment and technology, every sector is affected in many ways; The health sector in particular has been changing rapidly and dramatically. Also, as the objective of this research is to provide the alignment of the three main concepts. This section will align the three concepts of this research: the first subsection will cover accreditation and performance, the second accreditation and quality and the third will integrate quality and performance.

Furthermore, the alignment is demonstrated in practice through the adoption of performance measurement that is developed and measured by the quality department which works on improving quality of care, and a means to achieve the improvement could be accomplished and measured in a tangible way through the application for accreditation and being rewarded with the accreditation seal. However, although these concepts are not parallel, they affect each other and are interchangeably intertwined.

2.5.1 Accreditation and Performance Measurement

The accreditation movement started in 1951 in the United States through the formation of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) which is currently called the Joint Commission International (JCI). It is a voluntary, non-profit organization that measures performances of hospitals to improve quality of care and it provides the accreditation services to more than 100 countries including Saudi Arabia (JCI, 2017). Moreover, when the accreditation organizations were developmed the accreditation process was focused on assessing organizations based on their compliance with the accreditation standards, as the standards were an indication of good quality of care being delivered (Koss, Hanold and Loeb, 2002). However, since 2002 the focus in healthcare has moved from inspecting processes of care to inspecting the results of care through the development of outcome indicators. Furthermore, integrating performance measurement into the standards development process ensures the continuous improvement of the

accreditation process, as it provides regular monitoring and evaluation of the performances of the organization. In addition, studies conducted by Miller et al. (2005) and Braun, Koss and Loeb (1999) incorporated performance measurement data into accreditation processes and found that the Joint Commission on Accreditation of Healthcare Organizations (JCAHO known currently as JCI) accreditation scores and the Agency for Healthcare Research and Quality's Inpatient Quality Indicators and Patient Safety Indicators (IQIs/PSIs) are correlated.

Accordingly, the integration of performance measurement and accreditation standards is a challenging process (Koss, Hanold and Loeb, 2002). In this regard, it was stated by Shekelle, (2008) that including experts in the development of performance measurement, continuous auditing and responsiveness to any issues raised by the system users are important to the success of any performance measurement system and its reporting. Recent studies have also supported the link between accreditation and performance measurement in which a study by Schmaltz *et al.* (2011) has provided evidence that accreditation is associated with better performance and its improvement could be measured over time.

Also, it was stated that not only is this association affected by whether or not the organization is accredited but also by the performance of the organization as a whole, as performance measurement leads to the acquisition of accreditation and provides the ability to update the indicators and meet the requirements to many accreditation organizations.

A study conducted by Braithwaite *et al.* (2011) which was concerned with accreditation's effect on performance, specifically with the ACCREDIT (Accreditation Collaborative for the Conduct of Research, Evaluation and Designated Investigations through Teamwork) project, which is a project developed in Australia to measure the effectiveness of Australian accreditation. This study stated that there are many that support accreditation due to the belief that it supports change, standardizes processes and has a positive relation with organizations culture and leadership which are all measured through performance measurement (Braithwaite *et al.*, 2010; Pomey *et al.*, 2010; Scrivens, Klein and Steiner, 1995).

Different studies have agreed with the concept that accreditation helps to measure performance (Jovanovic, 2005; Hirose *et al.*, 2003). For example, a study by Jaafaripooyan, Agrizzi and Akbari-Haghighi (2011) assessed accreditation programs and stated that performance measurement and accreditation influence the organization and the public, by displaying how the accreditation process affects the improvement and effectiveness of the organization. Also, Dummer (2007) addressed the link between performance and accountability in the healthcare sector in a systematic manner. This study explored the means to deliver healthcare most efficiently through the involvement of all health care staff. Moreover, the study emphasized the importance of management involvement in ensuring quality performance through aligning quality and performance whether it is for accreditation or performance improvement.

On the other hand, while healthcare expenditure and costs are increasing, the quality of healthcare information needs to be measured accurately. van den Heuvel, Niemeijer and Does (2013) suggest linking finances with healthcare to provide the public with trustworthy information and found that measuring hospital performance through accreditation standards is both effective and efficient, which demonstrates how the quality department is the main source of information for hospitals as they are the link between the accreditation organizations and the hospitals.

2.5.2 Accreditations and Quality

Current studies are supportive of a correlation between accreditation and quality measures. Schmaltz *et al.*'s (2011) study regarding hospital performance, national quality measures and accreditation found that accredited hospitals perform better even on national quality measures than non-accredited hospitals and that accreditation leads to performance improvement over a period of time. Similarly, it was found that hospitals with accreditation can meet national measures better than non-accredited hospitals, which also supported the link between accreditation and quality of care (Schmaltz *et al.*, 2011). In this respect, accreditation also has a positive effect on patients' and overall satisfaction. However, providers' satisfaction is still hard to achieve (Tehewy, et al., 2009).

Furthermore, there is considerable evidence showing that accreditation improves the process of providing care and that external assessment brings positive changes in hospitals. To measure quality systems, Wagner, et al. (1999) developed an instrument that assigns activities to the different departments of the hospital and provides information about the implementation of quality systems and how they are linked to accreditation.

According to Alkhenizan and Shaw (2011) and as mentioned previously in Section 2.4, accreditation programs are related to quality of care as the assessment which ensures good quality of care is being delivered. Hence, accreditation systems are intertwined with the health services' adoption of the continuous quality improvement (CQI) model (Scrivens, 1997). Although accreditation and certification are different processes, it was found that hospitals that acquire external evaluation have a significantly higher quality of care than others (Shaw *et al.*, 2010).

The World Health Report 2000 (2000) published by the World Health Organization was a request from the International Society for Quality in Health Care, to provide information about the link between quality of care and accreditation of healthcare organizations. This aim is consistent with the increased worldwide interest in the quality of health systems that improve performances (WHO, 2003). Furthermore, accreditation is considered a means to measure quality of care and is a public reassurance of the quality of the services delivered by a hospital. Finally, accreditation improves patients' outcomes according to Moffett's (2005) research, where JCAHO offers inspections to assess the different performance areas including patient care and it has shown that in order to help increase patient care the focus should be more on quality indicators of hospitals.

2.5.3 Quality and Performance

Performance measurement as defined in Section 2.2, are adopted by hospitals to monitor the organization's performance and measure its quality to improve the services; which provides a sense of accountability towards the hospital, and most hospitals have already adopted performance measurement for quality improvement but each hospital adopts a different approach and tool (Scanlon *et al.*, 2001). Moreover, BSC is a means to measure performance and it has been noted that hospitals adopting BSC have achieved an

improvement in quality of care, improvement in internal and consumer satisfaction and also in the decision-making process (Chow-Chua and Goh, 2002). Furthermore, mandating performance measurement for quality of care provides positive results for reporting quality and affects performance plans differently depending on the context and organizational culture (Bundorf, Choudhry and Baker, 2008).

Moreover, Tooker, (2005) stated that the involvement of all stakeholders in developing performance measures leads to an improvement in quality of care and when quality improves greater satisfaction of patients and staff can be achieved. However, creating performance measures without the involvement of all stakeholders will result in resistance, as physicians will consider it as an extra burden, while patients will not understand their value. Thus, performance measures are used for quality improvement, in addition to informing external constituents, they are based on the belief that there will be an increasing need to synthesize performance and quality assurance programs to ensure that problems and needs are identified (Dummer, 2007).

2.6 Literature Gap

This thesis is built on the assumption that performance measurement, quality, and accreditation are interlinked areas in healthcare, such that it is important to establish the right performance measurement to help improve the quality of healthcare in order to gain accreditation. The literature of these factors does not reveal any empirical evidence that links all three areas together.

The literature review covered the different concepts of this thesis but the essential alignment has not been conducted by previous research. To improve healthcare performance a well-established performance measurement system should be adopted by the quality department, which is essential to gain accreditation and ensure international and national requirements are met by hospitals. Table 2.2 presents a list of gaps in the literature that the present research will address.

Table 2.2 Literature Gaps

Study	Gap
Handler, Issel and Turnock (2001)	The inclusion of the internal and external environment and the relationship between the different components of the organization or system.
Ito and Sugawara (2005)	Investigation of the effect of public disclosure on the different stakeholders.
Williams *et al.* (2005)	Combines qualitative and quantitative approaches to find how accreditation and performance are related.
Adair *et al.* (2006)	Investigation of performance measurements' effect on improvement.
Braithwaite *et al.* (2006)	Investigation of the benefits of accreditation on hospitals and staff.
Lombarts *et al.* (2009)	Exploration of the link between quality improvement and performance.
Kaplan *et al*, (2010)	What environmental factors affect performance measurement.
Pomey *et al.* (2010)	Investigation regarding the usage of performance measurement to assess accreditation.

Source: The Researcher

There is a lack of empirical evidence regarding the benefits of accreditation to individuals and organizational improvement (Braithwaite *et al.*, 2006). Moreover, there is a lack of literature defining what are the environmental factors affecting performance measurement, the availability of a practical model and specific measures to help adopting performance measurement (Kaplan *et al.*, 2010). Also, Adair *et al.* (2006) found a clear need for performance measurement with a particular focus on strategies to ensure improvement. Furthermore, Pomey *et al.* (2010) suggest to focus on the issue of lack of empirical evidence in the literature of investigating how performance measurement can be used to assess accreditation systems. Additionally, Lombarts *et al.* (2009) suggest further research on the link between performance and quality improvement and how quality improvement effects the performance of hospitals. Likewise, a study conducted by the JCI recommends more qualitative and quantitative studies to explore the reasons why the performance of accredited hospitals are on a constant increase (Williams *et al.*, 2005). Moreover, the effect of public disclosure on the different stakeholders has not been studied (Ito and Sugawara, 2005).

Finally, a system that would apply to all healthcare providers and is generalizable, must validate the external and internal environments in addition to the input, process and outcome of the system. It would also have to show the links between the different components of the healthcare organization to provide empirical scientific grounds for the legitimacy of the public health system (Handler, Issel and Turnock, 2001).

Thus, the present research will address the aforementioned gaps through discussing the alignment of all three concepts, providing a framework to demonstrate this alignment, incorporating the effect of the internal and external environments, while also aiming for improvement as an outcome. Moreover, it will consider the overall performance of the hospital and perception of the staff and management through mixed methods in the Saudi context.

2.7 Conclusion

The improvement of people's quality of life through a reliable and effective health care system in Saudi Arabia and establishing an alignment that confines performance measurement, quality, and accreditation while evaluating them is a major aim of this research. According to previous studies, there is a link between quality of care and accreditation programs; there is also a relationship between quality of hospitals and performance measurement and other studies have shown that performance measurement and accreditation programs are linked. Taken as a whole, it appears that performance measurement, quality in healthcare and accreditation are interrelated. Different views of researchers have been expressed with regards to the adoption of performance measurement and quality management, but most these issues have been addressed as they are both concepts that have been available in the healthcare sector for at least 50 years. However, the concept of accreditation is still facing issues of adoption and questions about its results and effects on hospitals, but as accreditation is adopted more widely by countries on a national level and patients use it as a basis for choosing a healthcare provider, the adoption of accreditation by hospitals is becoming more a matter of competitive advantage.

The next section will discuss the various theories and frameworks available for quality, performance measurement and accreditation, while also providing the initial conceptual framework for the current research.

Chapter 3 Theoretical Framework

3.1 Introduction

The previous chapter (Chapter 2) reviewed the literature on accreditation, performance measurement and quality management and discussed their importance, advantages and unintended consequences. Research on these areas has been blossoming in recent years whether it has been to find new approaches to their development and implementation or to measure the impact of their implementation and adoption. Several conceptual and theoretical frameworks that represent the relationships between these concepts, the processes required for their implementation and the expected outcome have been developed.

Moreover, based on the literature referred to in Chapter 2, most research in the healthcare sector has focused on one or two of the main concepts of this research (performance measurement, quality management and accreditation) but not on all three. Additionally, there is a lack of research on the alignment of all three concepts and the impact of the external and internal environment on this alignment (Section 2.9).

This chapter develops a theoretical framework that gathers together the different available frameworks in the healthcare industry related to accreditation, performance measurement and quality management by combining compatible theories, while also including the external and internal environments' effect. Also, this chapter will address the components of the framework with regards to the gap in knowledge described in Section 2.9.

Therefore, the following sections will review the relevant theories to this research, evaluate the current frameworks prevalent in the literature, and conclude with a detailed theoretical framework that has been developed for the current research.

3.2 Theories

A theory is defined as "a set of interrelated concepts, definitions, and propositions that present a systematic view of events or situations by specifying relations among variables in order to explain and predict the events or situations" (Glanz, Rimer and Viswanath, 2008, p.26). Moreover, the adoption of a theory assumes being conducted on a closed system,

where it recognizes the different parts of the system and their interactions in a systemic approach (Kerlinger, 1986; Blalock, 1969). However, this assumption does not apply to healthcare research, or the social sciences in general, as these involve open systems which interact with their environment (Glanz, Rimer and Viswanath, 2008).

Theories are used to help guide the research and prevent it from expanding to other areas, providing the dimensions for answering the research questions and exploring the area of interest (Glanz, Rimer and Viswanath, 2008). In addition, theories start with concepts, which are the main elements of a theory, when there is a link between these concepts and when they are adopted by a theory they are called theory *constructs* (Kerlinger, 1986).

As this research is conducted on the healthcare sector, the theory it adopts should include the environment's effect, as it is an open system with effects on and by the environment. Also, considering the main concepts of this research (performance management, quality management and accreditation), performance management and accreditation are processes that have been recently devised and the literature available on their theories only provides guidance on the application of these processes. While quality management is a system that has been available for a long time, the literature provides various theories which will be explored and these theories could be incorporated and adapted for performance measurement and accreditation.

Thus, the next section will discuss the different theories on quality and the theories which address the impact of the external environment.

3.2.1 Quality Theories

Quality theories have been common in the literature since before World War II; and include numerous supporters. For example, Shewhart developed a technique called the "statistical process control" in 1931. This process depends on statistics to measure quality control which is the reason he was named "the father of statistical quality control". Another development of Shewhart was his famous Shewhart cycle which was developed in 1939 and is the origin of the *Plan, Do, Control and Act* (PDCA) cycle (Rose, 2005).

Another quality pioneer is Deming (1982) who also followed in the footsteps of Shewhart when he arrived in Japan, who adopted a statistical process control technique for

manufacturing companies and he modified Shewhart's cycle into Deming's wheel. In 1951, Japanese executives developed Deming's wheel into the PDCA cycle, which is also known as *kaizen*, which is defined as a strategy or philosophy that focuses on continuous improvement (Imai, 1986).

Some of the advantages of using the PDCA cycle include, offering a structure for problem solving, a continuous cycle of feedback and a system for improvement. However, a disadvantage of this theory is the time commitment it requires.

In 1950, Deming was invited to Japan to give lectures about quality. During the 1950s he focussed on quality, because he believed in the importance of gaining management's commitment to achieving improvement. This belief stemmed from his dislike of the American approach of blaming workers for quality problems (known as the concept of *bad apples*) (Deming, 2000; Rose, 2005). Deming's main contribution to quality was the improved Deming cycle and his "fourteen points for management" (Table 3.1) which revolutionised quality management (Rose, 2005).

Table 3.1 Deming's Fourteen Points theory.

Deming's 14 Points
1. **Create constancy of purpose toward improvement of product and service.**
2. **Adopt the new philosophy.**
3. **Cease dependence on inspection to achieve quality.**
4. **End the practice of awarding business on the basis of price tag alone.**
5. **Improve constantly and forever the system of production and service.**
6. **Institute training on the job.**
7. **Institute leadership.**
8. **Drive out fear.**
9. **Break down barriers between departments.**
10. **Eliminate slogans, exhortations and targets for the work force.**
11. **Eliminate numerical quotas for the work force and numerical goals for management.**
12. **Remove barriers that rob the people of pride of workmanship. Eliminate the annual rating or merit system.**
13. **Institute a vigorous program of education and self-improvement.**
14. **Put everybody in the company to work to accomplish the transformation.**

Source: (Suarez, 1992).

The advantages of Deming's 14-point theory are in the description of the requirements to achieve quality with its emphasis on the involvement of the management. It also has the

advantage of having a statistical process control technique, though not having an order for the sequence of implementation of these points is its disadvantage. However, for the PDCA cycle, the main disadvantage was its mode of application, as organizations used this tool for problem solving instead of for continuous improvement.

Another quality pioneer is, Juran (1951) who arrived in Japan as a student of Deming, but with a more strategic view. He became famous for his interest in quality and focus on strategy and planning, which led to the development of Juran's Trilogy (1986). The Trilogy considers quality management to be composed of three processes: quality planning, control and improvement (Juran, 1986). Juran's Trilogy assumes that for any system to improve it should be properly planned and controlled. Moreover, Juran also developed the Pareto analysis which is adopted when any problem occurs in an institution to find all the possible reasons for its occurrence, then conduct an analysis to find the main reasons. This process results in minimizing the number of possibilities so that the reasons that significantly affect this problem can be identified (Juran and Godfrey, 1999).

The definitions of each concept in Juran's Quality Trilogy are important for understanding the relationship suggested by this theory. Quality improvement (QI) is defined as "the systemic and ongoing effort to provide the most effective clinical care and customer services in a manner that best meets the needs of patients and plan members" (McLaughlin and Kaluzny, 1994, p.624). While quality planning is described as "a structured process for developing products (both goods and services) that ensures that customer needs are met by the final result" (Early and Coletti, 1999, p.3.2). On the other hand, quality control is defined as "the managerial process that provides stability to prevent adverse change and to maintain the status quo" (Juran and Blanton Godfrey, 1999, p.4.2)

Juran's Quality Trilogy has the advantage of providing a system for problem solving and illuminating the origins of problems (Suarez, 1992). Moreover, it includes the different stages of the application of any new system, hence it can be applied to any industry, while also providing a good monitoring system for quality, a strong connection between its concepts and the ability to link it to cost (Juran, 1989). However, the Trilogy has the disadvantage of depending on the management of the organization succeeding or not and another disadvantage is its focus on problem solving rather than prevention (Suarez, 1992).

Other theories on quality that followed included Total Quality Control developed by Feigenbaum in (1951), which was built on the same basis as Juran's Trilogy with the addition of focusing on making the process goal oriented; that is, to make the whole organization work towards a common goal which could be, for example, achieving accreditation (Rose, 2005). While a different approach to quality was Crosby's Zero Defect theory, where Crosby (1979) believes that systems with good quality should have no defects and no fixing processes for defected areas. Crosby's theory was initiated due to his focus on the behavioural aspect rather than statistics, which makes it unique compared to the previous theories. But, due to the healthcare sector being complex with many changes that effect it, this theory cannot be adopted.

Crosby's approach has the advantage of appealing to managers of organizations as it does not depend on statistics and is linked to saving costs through accomplishing tasks right the first time with zero defects; however, it has faced a disadvantage due to it not having a statistical base, thus organizations that use statistics to forecast cost and distribute them were not able to adopt it (Suarez, 1992).

The current research considers the management and staff's perception of accreditation and their experiences with performance measurement, quality and accreditation. For all three concepts, planning and controlling are required and the outcome desired is quality and performance improvement. Hence, for this research the internal environment will follow Juran's Quality Trilogy, which states that to achieve improvement in quality, considered planning and quality control must be in place. Furthermore, this research attempts to integrated Juran's Quality Trilogy with another theory that would enable the inclusion of the external environment's effect on healthcare as well as the internal environment, as accreditation is an external assessment of an organization. Thus, the next section will discuss theories related to the environment's effect on any sector.

3.2.2 External Environment Theories

As stated in the Section 3.2 the healthcare sector is a system which is composed of many subsystems which interact together and are affected by the external environment. The management theories which discuss organizations as systems with interlinked subsystems

that are in direct relationship with the environment are contingency theory and systems theory; both will be discussed in the next two subsections.

3.2.2.1 Contingency Theory

Contingency theory is a management theory which states that "all situations and organizations are unique, and that consequently the situation will determine which practice, style, technique and function, management should use." (McGuire, 1982, p36-37). Moreover, this theory also includes the belief that any dependent factor is affected by independent factors, in addition to other aspects that include the assumption that there is no best way to lead an organization and make decisions, but optimal decisions depend on the internal and external situation (Otley, 1980).

Furthermore, the main advantages of contingency theory include its recognition of the complexities of systems and how subsystems and their interactions could lead to improvement of the organization. However, the disadvantages of this theory are its lack of generalization (which theories usually provide), its focus on conditional factors and bureaucracy, which work well in stable organizations but it does not include behavioural or social services of which the healthcare and management sector are a part of. In addition, another disadvantage includes, how this theory does not consider how management could improve organizations to perform better, as it is a theory that depends only on the situation and the environment (McGuire, 1982).

Another version of contingency theory is Fiedlers' contingency theory (1967), which is concerned with leadership only so that, it focuses on leadership style and the relationship between managers and the workers (Luthans, 1973). Likewise, this theory agrees with the principle of uncertainty in contingency theory; however, it requires the leader to exert some control on the environment as it does not depend solely on the leadership style but also on the leader's effect on the workers. Nonetheless, as the health and management sector cannot control its environment and this theory being beyond the scope of this research and its objectives, it will not be discussed much further.

3.2.2.2 Systems Theory

A system is defined as an organization with different parts that interact together to achieve a common goal. In 1930 von Bertanlanffy developed the General System's Theory; this theory states that if a system interacts with the environment then the environment has an effect on it (Von Bertalanffy, 1968; Boulding, 1956).

There are two types of systems for any organization: open or closed. A closed system is a system that does not interact with its environment and does not require feedback. In the theory of closed systems there is only one way to solve a problem: if there is an error with one part of the system the whole system shuts down. However, open systems provide and obtain feedback to and from the environment and the theory stipulates that in open systems different pathways are used to solve problems and assumes that every organization is unique due to its unique environment, so it has unique problems (Katz and Kahn, 1978; Boulding, 1956).

Moreover, the open systems theory also assumes that large systems are comprised of subsystems which are connected, but if an error occurs in one of the subsystems it will not block the whole system as it is dynamic and open to change. An example of an open system is the healthcare sector as it is affected by its environment and is constantly seeking different ways to overcome any obstacles and utilise any developments that would provide better quality.

The main advantage of open systems theory is its easy application to many industries with complex systems that have various interactions with the environment and provide feedback, this would include hospital and business administration sectors. An example of its first application in business research was in 1978 when Daniel Katz and Robert Kahn applied open system theory in business organizations (Katz and Kahn, 1978).

However, one of the disadvantages of systems theory is its focus on subsystems and their relationships rather than on the system as a whole, another is its constant comparisons of systems with organisms that are not on the same level of complexity (McGuire, 1982). Furthermore, systems theory insists on differentiating between open and closed systems when, according to McGuire (1982) and Luthans (1973), every system is an open system.

They also state that systems theory considers each part in the system to have an effect on the other parts of the system which makes it more complicated as every action, whether direct or not, has to be accounted for.

3.2.3 The Current Research Theory

Following from Section 3.2.1 and Section 3.2.2 this section will discuss the main theories the current research will adopt.

A combination of a quality theory and a systems theory has been adopted before by Kim and Burchill (1992), Kim (1990) and Senge and Sterman (1990), where these studies combined Total Quality Management (TQM) with systems theory, as TQM focuses on the importance of the parts of the system in order for the system to reach its goal (Mele and Colurcio, 2006).

However, this research adopts a combination of Juran's Quality Trilogy with Open Systems Theory. Figure 3.1 shows the relationship between the theories. Healthcare is considered to be an open system due to the environment having a direct effect on it and its development; an example of that is technological advancement, with the constant evolution of technology, healthcare is required to update its systems to allow the processes to become more efficient, which has led to the introduction of e-health and Electronic Medical Record (EMR) systems. Additionally, quality management is a requirement in healthcare and Juran's Quality Trilogy suggests having systematic planning and monitoring to achieve better output and better care as both lead to quality and performance improvements of the hospital overall.
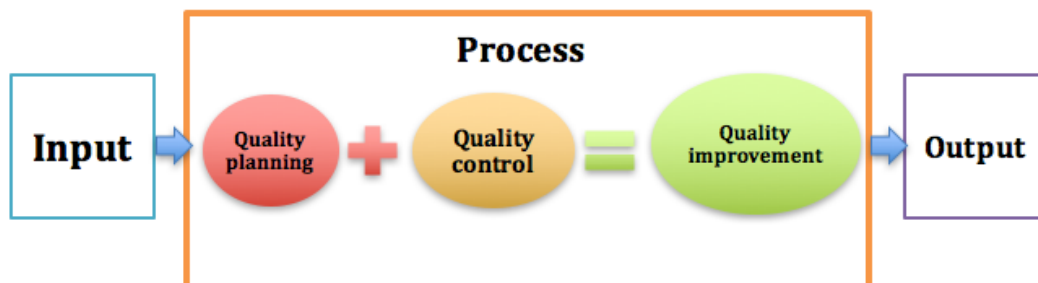
Figure 3.1 The Integration of Open Systems Theory and Juran's Quality Trilogy.

Source: The Researcher.

This integration will overcome the disadvantage of focusing only on the management, or the environment, system and shifting the analysis of control to the whole organization. It will also shift from focusing on problem solving only to prevention through adopting planning and monitoring which pays attention to the effect of the environment. Thus, the present research would be able to overcome the disadvantages of both theories by combining them, which would lead to focusing on both the system as a whole and the subsystems and their interactions.

The next section will discuss the different frameworks related to the main concepts of this research taking into consideration the theories adopted.

3.3 Evaluation of Frameworks

In this section, the different frameworks and models that were adopted and developed by previous researchers for performance measurement, quality measurement and management will be discussed. For each framework/model a description of its concepts and uses will be provided, followed by a discussion of the advantages and disadvantages.

The first framework was developed in a study conducted by Scanlon *et al.* (2001) on managed care organisations, where the authors developed a framework which demonstrates the link between performance measurement and quality improvement based on pre-set standards. The framework was developed from two hypotheses: one is that measuring performance provides guidance to quality initiatives and outcome measurements; the second is that even with the availability of performance measurements, the processes and decision making should be controlled by the organization.

Figure 3.2 demonstrates the framework developed by Scanlon *et al.* (2001); The right side of the framework illustrates the process of quality improvement, based on the work of Jaeger, Kaluzny, and McLaughlin (1994), and how it is related to performance measurement. While, on the other hand, the left side illustrates how performance measurement is conducted in Managed Care Organizations while accommodating external pressures to satisfy regulatory requirements. The left side also demonstrates how actions regarding the measurements are based on either expectation, reporting or benchmarking with other organizations and the organization's goals (Scanlon *et al.*, 2001).

Furthermore, this framework has the advantage of demonstrating how performance measurement is linked to monitoring improvement and measuring outcomes. While also illustrating how external and internal factors affect both performance measurement and quality improvement.
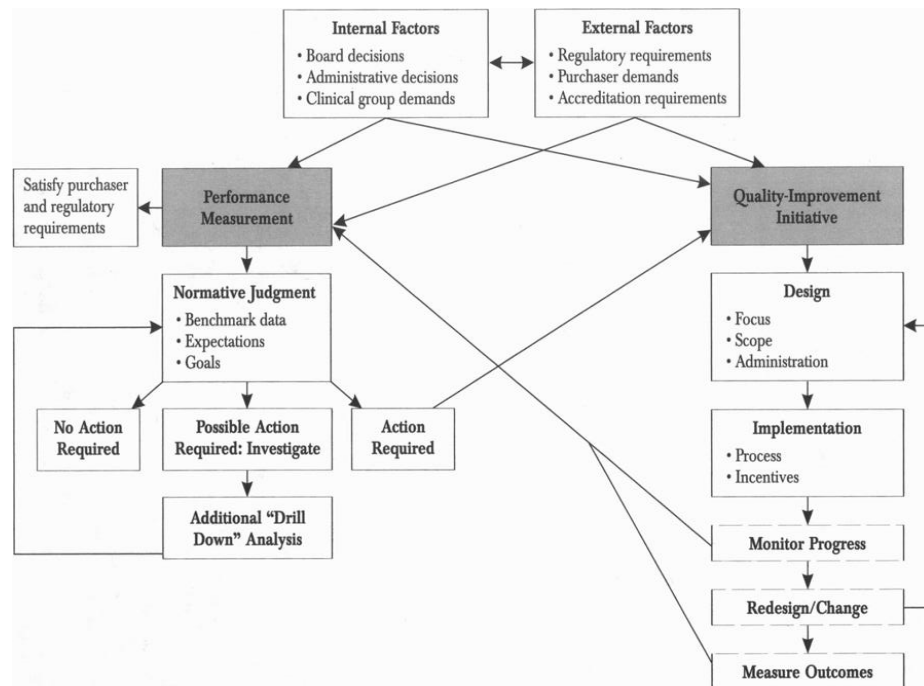
Figure 3.2 Linking Measurement and Improvement.

Source: (Scanlon *et al*., 2001).

However, the disadvantages of this framework include its consideration of managed care organizations only; it was not developed to consider the various needs of the population as an external demand and it is concerned with sets of standardized performance measures. Hence, the gap provided by this framework, which this research will address, is that it includes organizations' personalized indicators. Moreover, this research will follow with the inclusion of the external and internal environments as factors that affect the quality of care.

The second model will discuss the World Health Organisation's European Union office development of the Performance Assessment Tool for Quality Improvement in Hospitals (PATH) model, which is concerned with the quality of the Methods of Assessing Response

to Quality Improvement Strategies (MARQuIS) project. This project was conducted by the European Union region office to assess and provide cross-border care. The model developed is constructed with 6 dimensions, two of which are essential for measuring quality of care (Sunol, Garel and Jacquerye, 2009).

Moreover, the PATH model, shown in Figure 3.3, shows the 6 dimensions of quality assessment which include: clinical effectiveness, efficiency, staff orientation, responsive governance, safety and patent-centeredness. The last two dimensions are demonstrated horizontally to symbolize the importance of constantly measuring safety and patient-centeredness even while the other measurements are occurring.
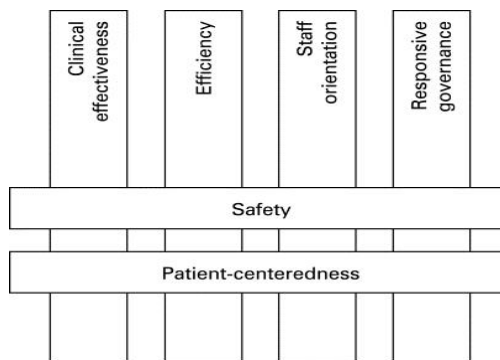
Figure 3.3 Dimensions of Quality from The PATH Model.

Source: (Sunol, Garel and Jacquerye, 2009).

This model has the advantage of considering and incorporating the multinational aspect by having been developed for all the various countries in the EU who were involved in this project. However, the disadvantages of this model are its exclusion of the increased cost of care and the inclusion of the limited treatment provided to non-citizens. Moreover, this model has not been applied or tested in countries outside of the European Union. Thus, the gap in this framework is that it does not include the external environment's effect (increased costs of healthcare), while it does include limited treatment to cover non-citizens. Therefore, the current research addresses the first gap, while the second gap will not be addressed as it is not consistent with the aims and objectives of this research.

Another framework was developed based on a systematic literature review of healthcare systems' performance indicators, which are commonly used according to Kruk and

Freedman (2008) (Figure 3.4). The following framework was developed with a focus on the outputs (process indicators) and outcomes (impact) of performance measurement, rather than the inputs to the process of care.

Figure 3.4 shows the framework and includes the three dimensions of focus to measure performance: effectiveness, efficiency and equity. Those dimensions cover both the process and outcome sections. While the input section includes the policies, finances and the organization itself, and how these three inputs influence performance measurement within the healthcare system.
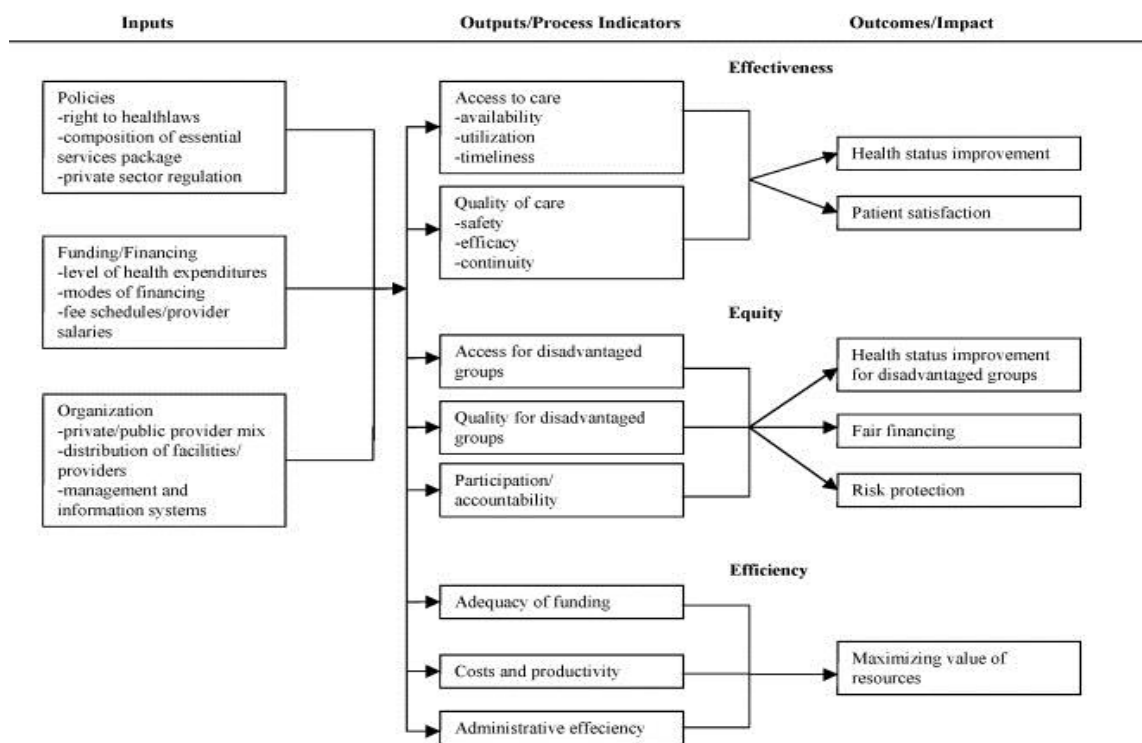
Figure 3.4 Framework for Health System Performance Measures.

Source: (Kurk and Freedman, 2008).

Furthermore, this framework has the advantage of providing an illustration and grouping of indicators that are mentioned in the literature and are used by healthcare providers. Also, it provides support to the notion that the external environment does affect performance and quality of care. However, it has the disadvantage of including indicators that were mentioned repeatedly only in the literature and it is limited in the range of indicators that are provided.

Similarly, it also does not take into consideration the perception of healthcare workers and their experiences with performance measurement, which is also a gap which this research will address.

The next model was developed by Chow-Chua and Goh (2002), named the Singapore Quality Award (SQA) model, which has been awarded a Malcolm Baldridge National Quality Award (MBNQA) for measuring performance. This model is considered to be a knowledge based framework, composed of 7 factors which are all interlinked.

Furthermore, the main inputs which are considered a driver for the results, are leadership and quality standards of the organization. The main outputs/results are operations and customer satisfaction, the other four factors are the processes which follow the drivers to achieve both outcomes (Figure 3.5) (Chow-Chua and Goh, 2002).
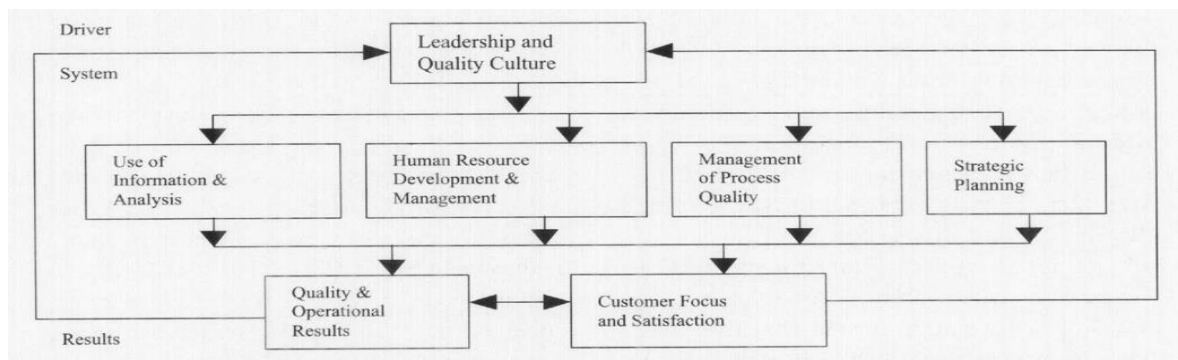
Figure 3.5 SQA Model.

Source: (Chow-Chua and Goh, 2002)

This model demonstrates the importance of feedback and relationships between the different sections while also including the importance of leadership. Another advantage is its ability to be linked with the Balanced Scorecard through setting objectives and standards to measure performance against (Chow-Chua and Goh, 2002). However, the main disadvantage of this framework was its focus on the importance of top level management, without including or highlighting the importance of middle and operational managers and staff who deal with the standards and the measurement process. Another disadvantage of the implementation of the model was its testing, as it was only tested in one hospital.

Moreover, this framework includes the quality culture as an input but it does not include the culture of the organization as a whole. Thus, the current research with its incorporation of senior and middle management accompanied by the staff overcomes one issue, additionally it includes the culture of the hospital as an internal effect and will gather data from 5 different hospitals to provide a reliable theoretical validation of the framework.

Another study conducted by Benté (2005), was concerned with how quality of care and performance measurement are carried out by external assessment organizations and, in order to understand the process, this study adopted two healthcare models.

The first model was the healthcare process model shown in Figure 3.6, which demonstrates how healthcare processes are a combination of what the hospital can deliver from combining the equipment, personnel, policies and procedures of the hospital to serve the patient (Benté, 2005).

After the hospital gathers it resources, it provides an output from the system (which is a process conducted for the patient, for example: admission of the patient or measuring temperature). That output is turned into an input provided to the patient and leads to the outcome of the treatment provided to the patient, which could result in a positive or negative result (Benté, 2005).
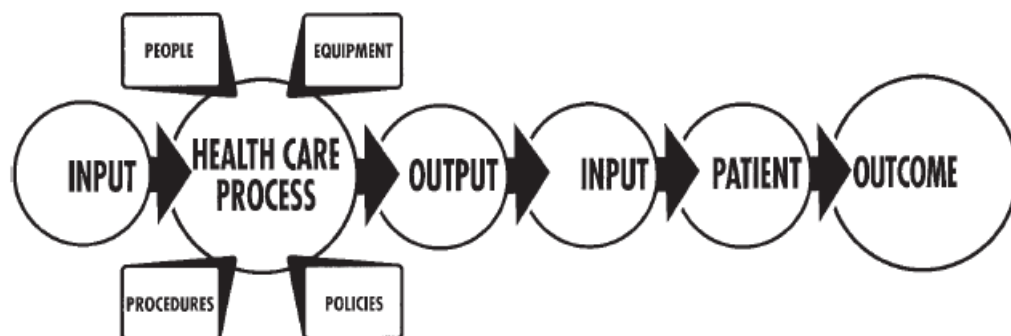
Figure 3.6 Health Care Process Model.

Source: (Benté, 2005).

Figure 3.6 provides the direction of the delivery of care; it also shows the different resources required to provide care. Nevertheless, what external organizations measure is the

outcome of care because they want to ensure positive outcomes rather than negative outcomes through providing quality services. However, according to Mark (1995) positive outcomes are not a direct indication of good quality care.

Hence, the second model is the health care control model, shown in Figure 3.7, which illustrates where the healthcare provider has its control which is limited to when the processes conducted are in the organization whereas it has less control, perhaps no control, when the patient leaves the premises.
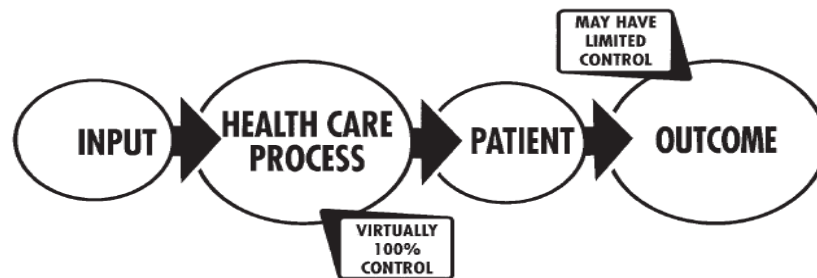
Figure 3.7 Health Care Control Model.

Source: (Benté, 2005).

Furthermore, this model indicates that although the desirable outcome is good health it cannot be assured as it depends on the patient's habits, lifestyle and physical condition. However, if the healthcare provider provides quality services to the patient while the patient is in the healthcare process phase (where the healthcare provider has full control) then they can at least assume a good health outcome for the patient by providing the best care (Benté, 2005).

The advantage of these models is demonstrated in their focus on the process of care rather than the outcome, as that is the area healthcare providers can control and the most standardized indicators by external assessment organizations are process indicators. However, these models did not include the external and internal environment's effect on these processes.

Thus, the current research will incorporate both the internal and external environment's effect on the process, while keeping the same direction of delivery of care and taking into consideration the different inputs, processes and outputs from the system.

Similarly, a study conducted by Cowing *et al.* (2009), was also interested in the process of measuring healthcare performances; however, in this study they focused on what elements affect performance measurement and developed the triad shown in Figure 3.8.
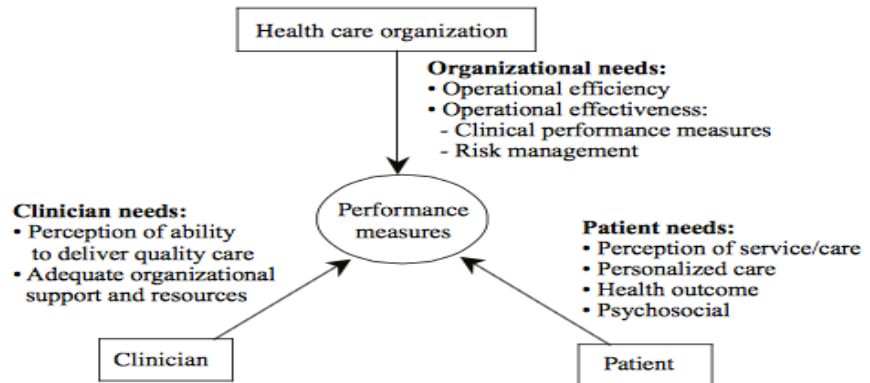
Figure 3.8 Perspectives In Health Care Performance.

Source: (Cowing *et al.*, 2009).

This triad is composed of the three-major elements of effect on measuring performances and those were the healthcare organization (hospital), clinicians and patients. Moreover, Figure 3.8 also demonstrates the demands required by each element to enable the implementation of a performance measurement system that meets the demands required by the population the organization serves (Cowing *et al.*, 2009).
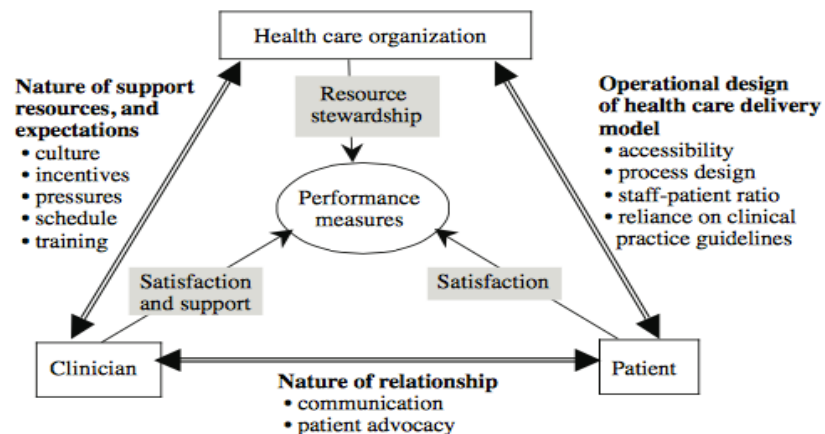
Figure 3.9 Conceptual Model of Health Care Delivery Performance.

Source: (Cowing *et al.*, 2009).

Following the development of the triad Cowing *et al.* (2009) developed a conceptual model for the relationships between the three elements with regards to healthcare delivery performance measurement (Figure 3.9). Furthermore, this model provides the advantage of including the internal contexts' effect on performance measurement with a focus on the healthcare organization, the clinicians who provide the care directly to the patients and the patients this organization serves.

This model also demonstrates the expectations from all three elements of the performance measurement system which include satisfaction and support and stewardship of resources. In addition, this model was developed from the same concepts of Donabedian's model (discussed at the end of this section). However, the model does not include a definition of satisfaction, simplifies the complex relationships in healthcare and does not include the external environment's effect on performance measurement systems. Hence, this research will tackle the environment's effect, while taking account of the complexity of the relationships and the satisfaction required by the healthcare workers only, as the patients are out of the scope of this research. A study of patients' satisfaction will be recommended for future research.

Another framework was developed by Handler, Issel and Turnock (2001), in cooperation with the Public Health Practice Program Office of the Centres of Disease Control and Prevention (CDC) to demonstrate the framework of the Public Health System (PHS) (Figure 3.10).
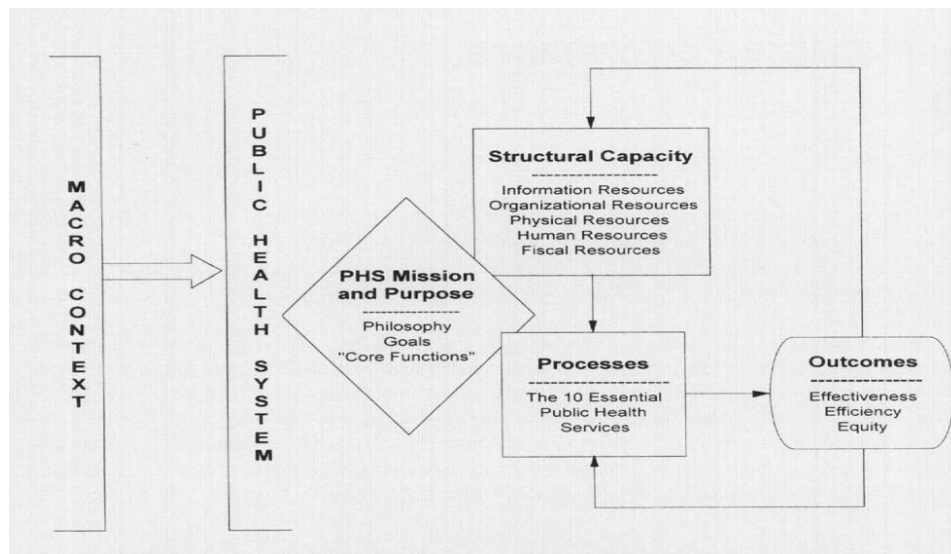
Figure 3.10 Conceptual Framework of The Public Health System (PHS).

Source: (Handler, Issel and Turnock, 2001).

The framework illustrates the main components of the public health system which is composed of: the mission of the organization, the structure (which is the organization itself including human and non-human resources), the processes and outcomes of care (Handler, Issel and Turnock, 2001).

The PHS framework illustrates the links between the different sections of the system and how they interact, while also demonstrating how the external context has an effect on the system. Thus, an advantage of this framework is its ease of implementation to healthcare systems and the visual representation of the links between the processes of the hospital and the outcome of care.

On the other hand, this framework does not include a specific measurement tool or a set of indicators to measure the performance of the system, which is a disadvantage and a gap in this framework. However, the PHS framework provides a clear example of an open system that is composed of many subsystems and is highly affected by the external context, which is the essence of an open system.
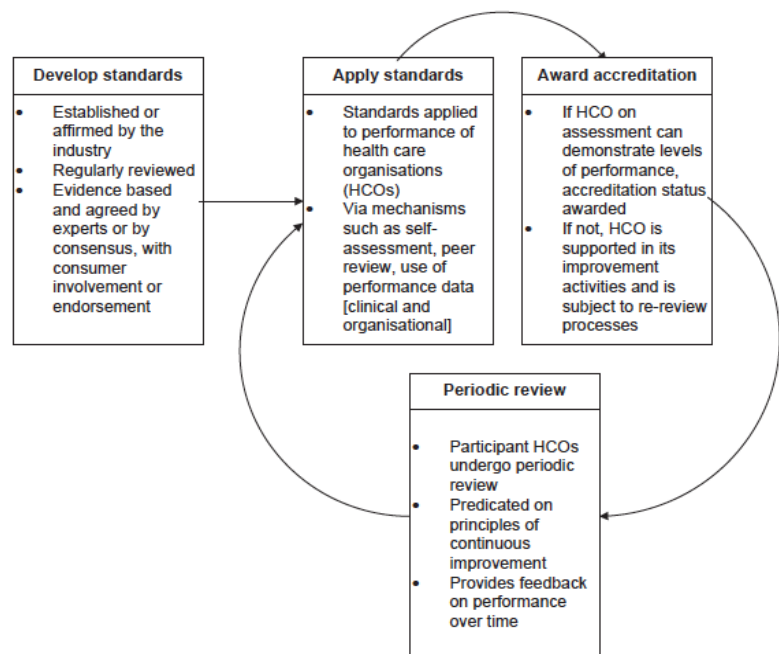
Figure 3.11 Generic Accreditation Model.

Source: (Braithwaite et al., 2011)

Likewise, another model by Braithwaite *et al.* (2011) shown in Figure 3.11, illustrates the generic process for an accreditation process, which starts at the accreditation organization through developing the standards based on evidence-based research and the requirements of the global population. Moreover, the standards have been developed due to the need for improvement in the sector and were developed by a group of representatives who discussed the different needs and how to meet them.

Afterwards the internal effect is demonstrated in the process of accreditation, which is conducted at the healthcare organization applying for accreditation (whether hospital, primary care or even laboratory). If successful, this process is followed by the award of accreditation. Thereafter, periodic reviews are conducted to ensure compliance with the accreditation standards.

The model developed by Braithwaite *et al*. (2011) has the advantage of demonstrating the accreditation process, its impact on the internal environment, the continuum of the process and how it is affected by the external environment. However, it does not consider the effect of the accreditation process on the organization's staff or management and its effect on the delivery of care. Furthermore, this model and the PHS framework both have a great similarity to Donabedians' model, which is discussed next.

Donabedian developed a model concerned with quality of care. This model is composed of three components: structure, process and outcome. These three components are essential to measuring quality of care (see Figure 3.12) (Donabedian, 1988). *Structure* is defined as the physical building for healthcare delivery, while *process* is the processes provided to reach good care, and *outcome* is defined as the recovery of patients (Iezzoni, Schwartz and Restuccia, 1991; Donabedian, 1969). To implement the model correctly, quality must be defined and measured accordingly (Heath *et al.*, 2009; Donabedian, 1988).

The notion of process and structure is also used by Larson and Muller (2002) who state that good care depends on appropriate processes and structures. Furthermore, Donabedians' model has been the basis for many quality frameworks including: quality assessment/quality assurance and Total Quality Management (TQM) approaches (Larson and Muller, 2002).
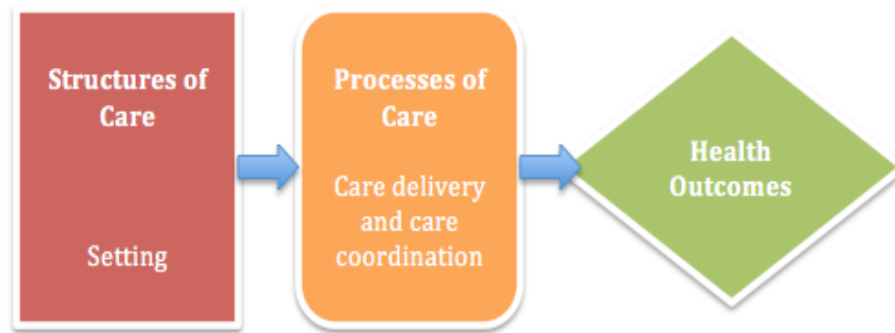
Figure 3.12 Donabedian's Quality Framework.

Source: (Donabedian, 1988).

Thus, an advantage of this model is its ability to be implemented in many sectors and its focus on quality implementation and measurement. However, to manage the measurement of quality in this fast-changing sector, it is important to adopt an approach that involves multiple stakeholders and includes the environment as it influences healthcare.

Moreover, Donabedian himself agreed that the environment and people's behaviour influences quality of care, but chose to focus on the process solely and hold to his assumption, which many researchers have followed till today and that is to ignore the outcome, which is surely a mistake (Donabedian, 1966). Nevertheless, according to Heath *et al.*, (2009) and Fortin *et al.*, (2007) it is of importance to include the external environment when measuring performances and this factor is missing in healthcare quality assessments.

The previous frameworks (Figures 3.2, 3.3, 3.4 and 3.5) focused on how to measure performances and the link between performance measurement and quality improvement. However, Figures 3.6, 3.7, 3.9, 3.10, 3.11 and 3.12 are concerned with the process of care itself and how it is related to performance management and linked with the environment. The frameworks shown in Figures 3.2, 3.9 and 3.10 all incorporated the external and internal environment while also following Donabedien's model of input, process and output.

To conclude, the literature provides a variety of frameworks and models on how to measure performance measurement, how the internal and external environments affect healthcare

organizations and the links between the process of care and the outcome of care. Hence, this research will follow the same direction with the inclusion and focus on the links between performance measurement, quality management and accreditation.

The next section will discuss the development of the framework for the present research and will be followed by the theoretical framework.

3.3.1 Framework Development

Frameworks in research could either be conceptual or theoretical. A conceptual framework is defined by Miles and Huberman as an illustration which:

> "explains either graphically, or in narrative form, the main things to be studied – the key factors, concepts or variables - and the presumed relationship among them" (Miles and Huberman, 1994, p.18).

While, a theoretical framework is defined as:

> "an empirical or quasi-empirical theories of social/psychological processes which exist at a variety of different levels and apply to the understanding of phenomena" (Anfara and Mertz, 2006, p.xvii).

Hence to develop a framework, a theory or set of theories should be available to build and establish the theoretical framework, which will be followed with the addition of the concepts specific for this research after the data analysis to develop the conceptual framework as stated in Section 3.1.

Therefore, the present research adopts Juran's Quality Trilogy combined with open systems theory to develop the theoretical framework (Section 3.2.3 Figure 3.1). The combination of the two theories places emphasis on the importance of the effect of the external environment, while also focusing on the planning, monitoring and controlling of the internal environment, which results in an improved organization. These theories will be incorporated into Donabedian's model as a basis for this research, which results in the development of the theoretical framework. The aim of the framework is to fill the gaps mentioned in the literature in Section 2.9, while also filling the gaps demonstrated in the previously mentioned frameworks and models (Table 3.2).

Table 3.1 Framework Gaps

Framework Gaps			
Reference	**Framework**	**Gap**	**Method**
Scanlon *et al*., (2001).	Figure 3.2 linking measurement and improvement.	Did not include different types of hospitals, personalized indicators and the external and internal environment.	Qualitative research
Sunol, Garel and Jacquerye, (2009).	Figure 3.3 Dimensions of quality from the PATH model.	Did not include cost of care, treatments for non-citizens and was tested only in European Union countries.	Multimethod (qualitative and quantitative)
Kurk and Freedman, (2008).	Figure 3.4 Framework for health system performance measures.	Did not consider staff perception and experiences.	Literature review
Chow-Chua and Goh, (2002).	Figure 3.5 Singapore Quality Award (SQA) model.	Did not include staff perception, culture of the organization and external environment.	Case study
Benté, (2005).	Figure 3.6 Health care process model and Figure 3.7 healthcare process and control model.	Did not include internal or external environment.	Framework paper
Cowing *et al*. (2009).	Figure 3.8 Perspectives in health care performance and Figure 3.9 Conceptual Model of Health Care Delivery Performance.	Did not include a definition for satisfaction, simplified complex relationships in healthcare and did not include external environment.	Conceptual model
Handler, Issel and Turnock, (2001).	Figure 3.10 Conceptual framework of the Public Health System (PHS).	Did not include the measurement tool.	Framework paper
Braithwaite, *et al*. (2011).	Figure 3.11 Generic Accreditation model.	Did not consider the effect of the accreditation process on the organizations and its effect on the delivery of care.	Multimethod (qualitative and quantitative)
Donabedian (1988).	Figure 3.12 Donabedian's Model.	Did not include external environment.	Framework paper

Source: The Researcher

Table 3.1 lists the gaps in the frameworks available which range between the implementation being tested in one hospital only, or the exclusion of the effect of the external and internal environments, or the lack of staff involvement who deal with the accreditation process first-hand. Furthermore, the mentioned gaps are examples of what this research is aiming to fulfil through a combination of frameworks and theories, with the

addition of new factors that were not considered before and the focus on the alignment of the three main concepts. The theoretical framework will be presented in the next section.

3.4 Theoretical Framework

Following from Section 3.3.1 where the development of the framework was discussed with the inclusion of the theories and previous frameworks, this section will discuss the theoretical framework shown in Figure 3.13.

This research focuses on accreditation and its relation to performance measurement and quality management to achieve performance improvement and Figure 3.13 demonstrates the theoretical framework of this research. The red circle signifies the continuous effect of the external environment on the healthcare sector, and the green square represents the internal environment and the organisation which is in the centre of the environment and symbolises the effect of the internal environment. The three main concepts of this research are interlinked with double headed arrows as they all are directly affected by each other and are affected by the external and internal environments.

Figure 3.13 The Present Research Theoretical Framework Model.

Source: The Researcher.

The following sections will discuss the three concepts in accordance with the framework. That discussion will be followed with a discussion of the impact of the external and internal environments on the theoretical framework.

3.4.1 Performance Measurement

The application of the performance measurement system, follows the same structure as Donabedian's model, with the input, process and output components (Handler, Issel and Turnock, 2001). Moreover, Figure 3.14 illustrates the performance measurement concept in the initial framework, where the green boxes symbolise the inputs, the white box is the system development, while the blue boxes are the processes and finally the orange boxes are the output.

The inputs demonstrate the internal environmental factors which affect indicator development and are required by the hospital, which include management, policies, guidelines and objectives. Moreover, the patients for whom the hospital provides treatment and the medical staff which treat the patients from admission to discharge are included, as all those aspects have to be considered since they directly influence the hospital. The three inputs (hospital, patients and staff) provide guidance and structure to the development of indicators that are provided for the purpose of performance measurement.
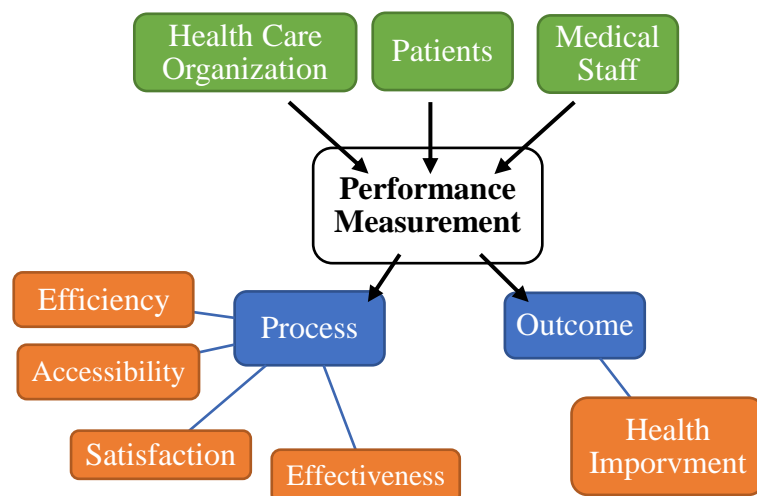
Figure 3.14 Performance Measurement Concept.

Source: The Research adopted from (Cowing *et al*., 2009; Donabedian, 1988; Kurk and Freedman, 2008).

The process aspect of performance measurement is the development of the system, this includes developing standards, targets and indicators, the data collection and the assessment against specified standards, whether the targets set are met or not. In the process concept, the indicators are divided into process and outcome indicators where process indicators are used more than outcome indicators as they measure the process which occurs in the hospital, and this is supported by Benté (2005) (Figure 3.7).

The process indicators are measured where the hospital has 100% control of the environment but outcome indicators which measure the effects of care out of the hospital are affected by the patient's lifestyle and the external environment where the healthcare organisation has no control (Benté, 2005). Finally, the outcome is the result of applying performance measurement which includes measuring the efficiency, accessibility, satisfaction and effectiveness of the service delivery, while also ensuring health improvement to the patient prior to discharging the patient.

These stages provide the application process of performance measurement in hospitals and any healthcare provider. They are to be conducted by the quality department which is responsible for developing the indicators and measuring the performance of the hospital with the cooperation of hospital staff.

3.4.2 Quality Management

The present research adopts the Juran Quality Trilogy (1986) which indicates that quality management is composed of three principles, which are quality planning, improvement and control.
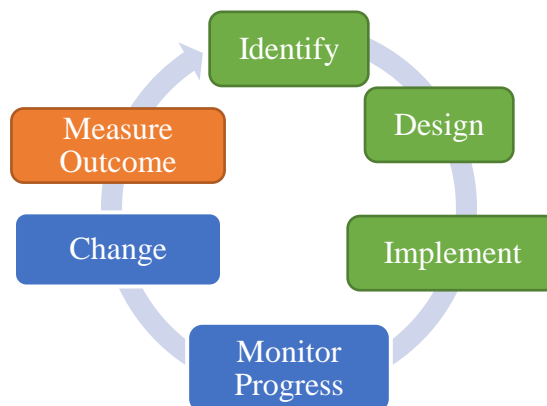
Figure 3.15 Quality Management Concept

Source: (Scanlon *et al*, 2001).

Figure 3.15 shows the cycle of quality improvement, with the green boxes indicating the planning stage, the blue boxes being the control stage and the final orange box indicates the improvement result. Similarly, the improvement stage provides guidelines for a new planning strategy. Thus, the process of quality management is continuous and is always aiming for improvement.

Moreover, as discussed previously in Section 3.3 Figure 3.2, these stages demonstrate the process of acquiring quality improvement based on the research of Jaeger, Kaluzny, and McLaughlin (1994). Furthermore, Jaeger *et al.* (1994) is a study which discusses the adoption of Continuous Quality Improvement (CQI) in healthcare and its relation to quality promotion which resulted in the above mentioned stages (Figure 3.14) as the steps required to achieve improvement of quality care. Thus, the current research integrates the quality improvement initiative from Scanlon *et al.* (2001) with Juran's Quality Trilogy to provide the quality management concept in the framework.

3.4.3 Accreditation

Finally, Figure 3.16 demonstrates the accreditation concept in this research as it illustrates the processes of applying for accreditation for hospitals. Similar to Sections 3.4.1 and 3.4.2 this concept follows the Donabedian model of input, process and output, while also incorporating the open systems theory and Juran's Quality Trilogy.
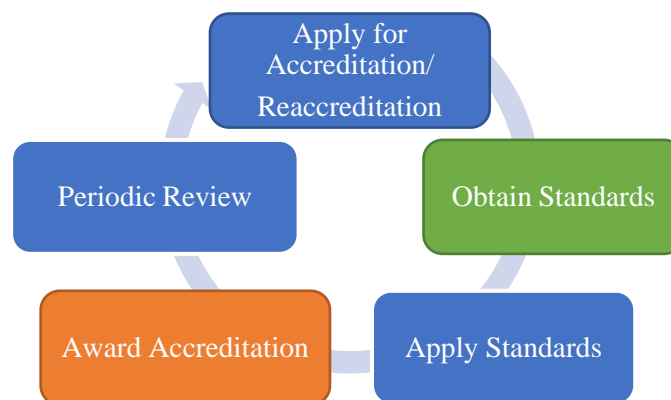
Figure 3.16 Accreditation Concept.

Source: (Braithwaite *et al*., 2011).

Moreover, the input is demonstrated in the green box which is the accreditation standards, the processes are demonstrated in the blue boxes which refer to the application of the standards, the period reviews by the accreditation organization and the application for re-accreditation. On the other hand, the outcome is demonstrated by the orange box which is the award of accreditation.

The application of accreditation starts with obtaining the standards provided by the accreditation organization, that is followed by the application of these standards, which is the stage that faces the most resistance by the staff as it introduces change, then the assessment occurs by the external surveyors and once the assessment is concluded then the accreditation is either awarded or a next assessment is required. Moreover, after the award of accreditation the process continues with some announced or unannounced visits by the accreditation organization during the period of the accreditation. Once the accreditation period ends then the process of reapplying occurs. It could be for the same accreditation organization or an application to another accreditation organization.

Furthermore, some hospitals which incorporate, quality and performance management in their goals, tend to prepare for the accreditation process prior to applying by obtaining the standards and implementing the requirements to ease the accreditation process. Hence, Figure 3.16 is a continuous cycle as accreditation is a process that is continuously updated with the application of the assessment and the standards development based on the changes in the field and the population.

Thus, the previous sections demonstrated the three main concepts which compose the heart of the present research, the next section will discuss the external and internal environments' effects on the present research.

3.4.4 The Internal and External Environments

Figure 3.17 illustrates the internal and external environments of the healthcare sector which are discussed in the following paragraphs; examples of the external environment will be provided followed by examples of the internal environment changes. The oval shape incorporates the external environment and its many effects, while the rectangle incorporates the internal environments' major changes which are demonstrated by the orange circles.

As stated previously in Section 3.2.3 the healthcare sector is an open system that is affected by its environment whether internally or externally. Moreover, in Section 3.2.3 an example of the external environment's effect on healthcare was mentioned, which is technological advancement.
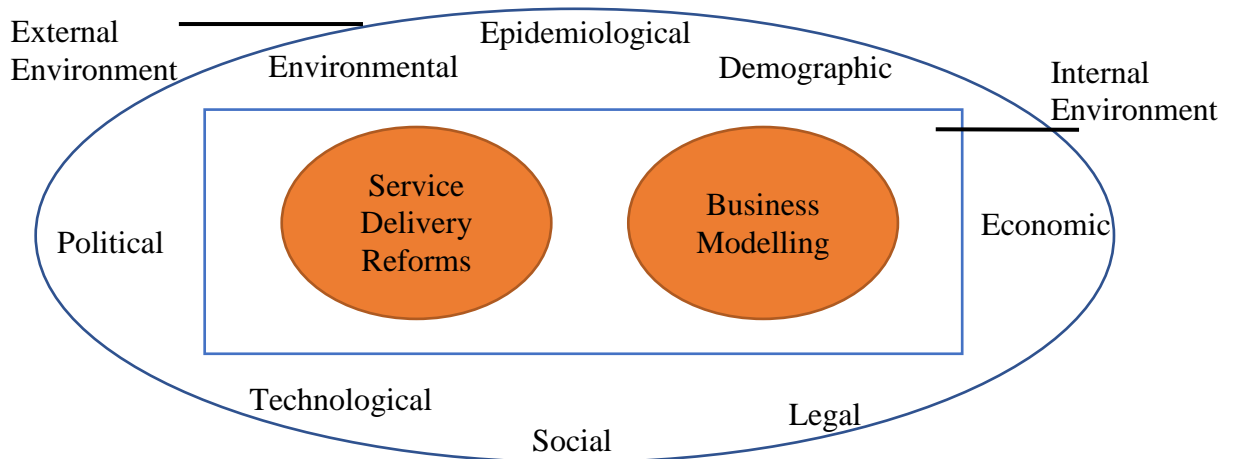
Figure 3-17 Internal and External Environment.

Source: The Researcher adopted and modified from (Atun, *et al*., 2006)

Another example would be demographical changes, as the human population is undergoing many demographic changes, which include aging, accompanied with epidemiological occurrences, with the wide spread of HIV/AIDS and the epidemic of obesity which has become a worldwide issue, the healthcare sector has moved towards preventative care and awareness campaigns to overcome these problems (Christiansen *et al.*, 2006).

Meanwhile political and financial changes also have an effect on how the healthcare sector is structured and functioning, health expenditures are increasing, the aging of the population decreases its productivity, accompanied by the global recession and increased public debt levels due to emerging markets taking over, are some examples of that influence (Lauriks *et al.*, 2012).

To overcome these challenges the healthcare sector is adopting new managerial techniques, through performance management, quality management and accreditation, as these are tools which can help the management to decide on the right course of action.

In addition to these external factors, internal revolutions in the healthcare sector are occurring, including reforms in service delivery and business modelling, which are considered to be improvements in the sector.

Roski and McClellan (2011), discussed the reforms in service delivery which are occurring due to the global changes in healthcare, as the services shift towards becoming more patient oriented, focusing on empowering patients and highlighting the concept of personalized care; this is demonstrated through personalized care especially for cancer patients and immunotherapy where the drugs must be specified for the patients' needs and treatment.

Furthermore, it also includes shifting delivery of care from hospitals to primary care, an example of that is the gate-keeping in the UK and recently in Saudi Arabia, where patients should seek care primarily from a general practitioner who formulates a referral to a specialist or the hospital if needed. Service delivery also includes emphasis on quality and improvement to ensure proper healthcare delivery to patients, through setting targets for safety and quality, which could lead to acquiring accreditation as a confirmation of the quality of care.

The other aspect of the internal reforms would discuss the financing reforms that are occurring due to the high cost of healthcare, which leads to the revolution of health insurance and tele health. Different approaches were developed to find a solution to this global problem of high expenditure, that include outsourcing and different funding plans for healthcare payments in the forms of national insurance plans, payment by performance and payment by diagnostic groups. An example of that in the Saudi context would be the establishment of health insurance to assist with healthcare costs.

Moreover, the previous mentioned approaches (outsourcing, payment by performance and diagnosis) have been used and implemented in various healthcare contexts but are still under inspection for validation by researchers as certain priorities should be made and rationalized to be able to use these approaches effectively (Hussey *et al.*, 2009).

3.4 Conclusion

This research developed a theoretical framework on the basis of Donabedian's framework (input, process and output), with the adoption of Juran's Quality Trilogy (quality planning + quality control = quality improvement) and the open systems theory (the effect of the external and internal environment). As the healthcare system is in direct contact with its environment it was essential to address the three concepts of this research which are the basis of the internal framework and the environment's effect on these factors whether internally or externally.

This research provides a new contribution through the development of the framework and the combination of Juran's Qualty Theory with the Open Systems Theory. The framework was developed based on various models and frameworks that represent quality management, performance measurement and accreditation. It also included the main concepts of each and the processes to accomplish them. Moreover, it considered the adoption of the theories in including the external and internal environments' effects. Furthermore, the theoretical framework provided guidance to the researcher while undergoing the different sections required to fulfil the present research.

However, the conceptual framework will be discussed in the discussion chapter (Section 7.4), where the additions from the analysis of this research will be added to the initial framework presented in Section 3.4. Also, a step by step guideline for the implementation of the framework will be presented in the discussion chapter under the practical implications section (Section 7.4). Furthermore, the next chapter will discuss the research design and methodology of the current research.

Chapter 4 Research Design

4.1 Introduction

This chapter describes the various possible research designs and data collection techniques that were considered and justify the approach, which was selected to meet the research aims and objectives. It also describes the paradigm of the research, including its epistemology and ontology, and provides details about the sampling methods and methodology employed.

Moreover, research design is defined as the plan which guides how the research question will be answered (Saunders, Lewis and Thornhill, 2012). While Collis and Hussey (2009) define methodology as the activity plan to follow throughout the research. Additionally, Eriksson and Kovalainen (2008a) define methodology as how individuals know the world or how a phenomenon can be studied, through providing guidance for which methods to adopt to investigate the phenomenon. Thus, the difference between research design and research methodology is that research design is the planning of how the research will be conducted, and research methodology is the means for the data collection. Hence, this chapter is titled "research design" as it will define the guidelines for the conduct of the research.

Finally, this chapter is organised as follows: Section 4.2 discusses the research purpose; Section 4.3 discusses the key research paradigms, while Section 4.4 examines the research approach. These are followed by Sections 4.5, 4.6, 4.7 and 4.8 which cover the research methods, strategy, sampling and details used in the pilot study. The next three sections, Sections 4.9, 4.10 and 4.11, discuss the data collection and data analysis techniques. This chapter concludes with the ethical approval and chapter conclusion which are mentioned in Sections 4.12 and 4.13.

4.2 Research Purpose

As the purpose of the research influences the research design, it is important to identify the three main research purposes known as exploratory, explanatory and descriptive. Each

purpose will be defined accordingly below and the final section will discuss the current research purpose (see Section 4.2.4) (Saunders, Lewis and Thornhill, 2012).

4.2.1 Exploratory Research

Exploratory research explores the question "what": what is happening in the world in order to obtain new information through asking questions and assessing the responses (Robson, 2002). Studies looking for more clarification and understanding, have an exploratory purpose.

In this type of investigation, the researcher should gather data thorough conducting one-to-one interviews or focus groups (Saunders, Lewis and Thornhill, 2012). This type of research is data driven and adopts a funnel approach, as the researcher starts with having a broad idea which is steadily focused through an iterative process of data gathering and theory development. Moreover, since exploration involves the discovery of ideas and insights it looks for reasons and explanations of phenomena in contrast to collecting numerical data through quantitative methods (Matthews and Ross, 2010). Furthermore, different types of strategy; for example, focus groups, expert surveys and open-ended questionnaires are means to conduct an exploratory research.

4.2.2 Explanatory Research

Explanatory research seeks answers to "why and how" questions; it is the type of research that is used mostly to establish cause and effect relationships while also taking into consideration the similarities and differences between the connections and other relationships (Matthews and Ross, 2010). Explanatory research is based upon hypotheses that will be either accepted or rejected by the data collected through analysis (Saunders, Lewis and Thornhill, 2012). Furthermore, Veera *et al.* (2008) see explanatory research as a continuation or development of descriptive studies, since it demands more than collecting data and requires analysing and explaining them.

4.2.3 Descriptive Research

Descriptive research is usually conducted to provide more information about a phenomenon or situation (Matthews and Ross, 2010; Robson, 2002) as it seeks answers to "what, where,

when and how" questions. This research is usually pre-planned and structured, as it provides details for the researcher to gain a broad understanding of the topic. However, descriptive research can only provide details on areas that have previously been explored so other, complementary, approaches are also required for deeper understanding (Saunders, Lewis and Thornhill, 2012).

4.2.4 The Current Research

The current research started with exploring the literature to understand the nature of the context of healthcare, quality management, accreditation and the Saudi Healthcare system. That was followed by exploring the study through interviews and questionnaires to develop and examine the relationship between accreditation, quality management and performance management, and how they affect each other. According to Saunders, Lewis and Thornhill (2012), these steps are the main ones to conduct an exploratory study. Moreover, as the research questions, aims and objectives of this study are of an exploratory nature, thus this research follows the exploratory approach in order to understand the main concepts in the literature, explore their relationships in the real world and develop a framework to illustrate the relationships.

4.3 Research Paradigm or Philosophy

A research paradigm, or research philosophy, is the justification and guidance for how the research will be conducted (Eriksson and Kovalainen, 2008a). Similarly, Gliner and Morgan (2000) states that a "paradigm is a way of thinking about and conducting research. It is not strictly a methodology, but more of a philosophy that guides how the research is to be conducted" (Gliner and Morgan, 2000, p17). Thus, paradigms have a big influence on deciding between research methods and how to acquire knowledge from the data collection and analysis.

However, the term paradigm is used more widely by major methodologists (Teddlie and Tashakkori, 2009, Creswell and Plano Clark, 2007 and Guba and Lincoln, 1994). Moreover, a research paradigm is defined by Guba and Lincoln (1994) as the beliefs that the researcher has about the world and how the research should be conducted. While, Collis and Hussey (2003), defines a research paradigm as the means for conducting research,

based on the researchers' experiences and how the researchers regard reality and acquire knowledge. On the other hand, Saunders, Lewis and Thornhill (2012) suggest that the paradigms researchers follow reflect the way they perceive the world.

Moreover, a research paradigm describes the understanding of how the research will be conducted and provides means for identifying the appropriate methodology by recognising the limitations of the other approaches before collecting the data (Smith, 1998).

Research paradigms should be specified in qualitative research, but in some quantitative or business research paradigms are not mentioned as the authors assumptions are made tacitly (Eriksson and Kovalainen, 2008a). The importance of paradigms is in consolidating the research by specifying its design and strategy, as each paradigm has its own direction, which depends on the research purpose and its relation to the aims and objectives, yet different paradigms can be conducted with different methods and vice versa (Eriksson and Kovalainen, 2008a).

However, as different concepts are covered under the term 'research paradigm', this researcher will follow the advice of Burrell and Morgan (1979), and Guba and Lincoln (1994), where it is considered that ontology, epistemology and methodology are interrelated and referred to as a "research paradigm". Thus, this chapter will consider these three aspects of paradigms: ontology, epistemology and methodology.

4.3.1 Ontology

Ontology examines the connections between people and the external world, which is the concept of reality, in addition to the assumptions that are made about the way the world operates (Bryman, 2012). Moreover, the object of study depends on the ontology of the researcher (Burrell and Morgan, 1979).

There are two main alternatives in ontology: objectivism and subjectivism (Hatch and Cunliffe, 2006). Quantitative research assumes objectivity, which indicates that reality is independent from the people living in it and their experiences, as every aspect of this reality is considered a fact. However, qualitative research is assumed to be subjective (Saunders, Lewis and Thornhill, 2012).

Subjectivity assumes that reality does not exist without individuals' perception of it (Blaikie, 1993), which means that reality is based on the personal experiences of each individual and changes with time and context, this is also called 'constructionism' (Eriksson and Kovalainen, 2008a).

While, objectivism portrays social entities as singular realities or assumes that social entities exist externally to social actors who encounter them ready made. Subjectivism assumes that social phenomena are created from the actions of social actors so there is no one, fixed reality.

4.3.2 Epistemology

Epistemology is concerned with what is considered acceptable knowledge in a field of study (Saunders, Lewis and Thornhill, 2012). O'Gorman (2008) described epistemology as the means we use to acquire our beliefs and how we explain the conduct of our research. Furthermore, according to Eriksson and Kovalainen (2008), epistemology accounts for the knowledge available and how it is acquired while considering its limits. However, business researchers have demonstrated more interest on this matter and have been more intrigued with epistemology than with paradigms (Willmott, 1997; Johnson and Duberley, 2000; Gill and Johnson, 2010). Since they believe that epistemology holds two views: an objective view which sees the world existing externally and neutrally from theory, and a subjective view which see the external world as limited to the researcher's experiences.

Epistemology depends on how the researcher assigns knowledge to the research, which is composed of three aspects: if its concerned with tangible knowledge areas or empirical research, then it is positivist; if it adopts empirical research but also includes the different interpretations of researchers, then it is realist. However, if it is concerned with individuals as constructors of reality' then it is interpretivist. Nevertheless, when adopting mixed methods assigning knowledge could include both empirical research and subjective interpretation, which caused the development of two epistemologies for mixed methods namely pragmatism or transformation (Goldhul, 2012). This section will discuss the different epistemological paradigms, followed by the paradigms for mixed methods research and conclude with the current research's paradigm.

Positivism

Positivism deals with measurable elements (Eriksson and Kovalainen, 2008a). Therefore, positivists rely on science and scientific methods, which assume an objective view of the world (Levin, 1988). In addition, the researcher does not become engaged with the data, thus the researcher is independent of the data collection process (Saunders, Lewis and Thornhill, 2012). Moreover, positivism relies usually on numbers and quantities to ensure validity of the research (Blaikie 1993; Saunders, Lewis and Thornhill 2012; Eriksson and Kovalainen 2008; Easterby-Smith, Thorpe and Jackson, 2008; Hatch and Cunliffe 2006).

Furthermore, it is adopted when there is a knowledge gap that requires filling through seeking information about reality. This epistemology is usually adopted by natural sciences researchers and commonly addresses hypotheses and experiments, to enable analysis of social reality to produce a generalizable result (Neuman, 2005).

Positivism addresses the world as a directly knowable reality, through an objective view and provides insight into cause-effect relationships, nevertheless this has been criticised as it does not provide an understanding of the phenomenon being studied (Walsham, 2006).

Realism

Realism considers that research can be objective (Perry, 1998), while also assuming the high importance of the structure, which includes the external context, as it tests relationships that are not necessarily measurable (Hunt, 1991). Moreover, realism assumes an empirical and measurable reality which is similar to positivism, but it also considers the perception of the world as socially acquired which also makes it consistent with interpretivism (Eriksson and Kovalainen, 2008a).

Thus, realism is concerned with objectivity and its existence and how it relates to our knowledge. It is composed of two types: direct realism which assumes that the world is an object that does not change, and critical realism, which also assumes that the world is an object that includes people' perceptions and feelings about this world (Saunders, Lewis and Thornhill, 2012).

Interpretivism

Interpretivist researchers believe in subjectivity and are interested in social interactions and their interpretation (Eriksson and Kovalainen, 2008a). It is concerned with solving problems and understanding the context where there is no one fixed view of reality. Interpretivists tend to place more emphasis on understanding the research problem than on quantifying the problem since they adopt a subjective view of reality (Strauss and Corbin, 1990).

Furthermore, because interpretivism deals with data and understanding it through people's experiences, it is ideal for exploratory research since it involves field work to obtain the data needed and this requires an interaction with the respondents. Interpretivists consider it a necessity to understand the differences and interactions between humans.

However, dependent and independent variables are not considered part of the interpretivist epistemology (Eriksson and Kovalainen, 2008a). This notion is also supported by Kaplan and Maxwell, (1994) who state that interpretive research is not concerned with dependent and independent variables, but address the phenomenon in hand and seek to understand it deeply. Moreover, Pettigrew, Woodman and Cameron (2001), state that relationships are not only dependent and independent, but also an interaction between the phenomenon, its processes and its context.

It should be noted that researchers can adopt different paradigms in the same research, for example business and management studies usually adopt interpretivism and positivism (Morgan, 2007). This is demonstrated through quantitative studies which follow objectivist ontology and positivist epistemology as they deal with objects and numbers with the aim of generalizability (Blumberg, Cooper and Schindler, 2011; Myers, 2013).

In addition, qualitative studies adopt interpretivist epistemology and subjectivist ontology due to it depending on the experiences of the subjects alongside the aim of understanding a phenomenon (Saunders, Lewis and Thornhill, 2012; Creswell, 2003; Orlikowski and Baroudi, 1991). Thus, after discussing the main paradigms for research the next section will discuss the paradigms developed and adopted for mixed methods research.

4.3.3 Paradigms for Mixed Methods Research

According to Hall (2012), mixed methods research has three options for its paradigms: a-paradigmatic view, the multiple paradigm view and the single paradigm view.

The a-paradigmatic view assumes that paradigms are not a necessity in research (Tashakkori and Teddlie, 2003a).The multiple paradigm view is divided into three options, either:

1. The complementary strength thesis, which is based on using different methods to acquire the strength of both the quantitative and qualitative approaches (Morse, 2003).
2. The dialectical thesis that believes in mixing mental models, which are defined as all assumptions or beliefs that provide a mean for social inquiries to conduct their work (Greene, 2007).
3. The multiple paradigm thesis which states that paradigms should be chosen depending on what would strengthen the research design (Cresswell and Plano-Clarck, 2007).

However, an issue regarding the multiple paradigm view was raised by Hall (2012), where he discussed how adopting these methods is complicated and there has been no research on how to mix these models together.

Thus, the single paradigm approach is the most reliable, as it helps with overcoming the difficulties of the previously mentioned paradigms namely: positivism, realism and interpretivism (Section 4.3.2). Moreover Hall (2012), supports the notion of the single paradigm and states that adopting one paradigm could fit both the qualitative and quantitative methods and this paradigm could either be pragmatism (e.g. Johnson and Onwuegbuzie, 2004; Maxcy, 2003; Morgan, 2007) or transformative (Mertens, 2003).

According to many studies, pragmatism was based on mixed methods research, while also offering solutions for practical problems (Mkansi and Acheampong, 2012; Denscombe, 2007; Johnson and Onwuegbuzie, 2004; Morgan, 2007). Furthermore, pragmatism allows the application of qualitative and quantitative methods together in the same study which will result in a better understanding of the phenomenon (Greene and Caracelli, 2003). On

the other hand, the transformation paradigm is concerned with marginalised groups in the population and their experiences (Mertens, 2003), which minimizes its application.

Another paradigm used by different researchers for mixed methods would include the realist approach which could be adopted not only as an ontology but also as a paradigm which has been used by many researchers (Sayer, 2000; Mark, Henry and Julnes, 1998; Pawson and Tilley, 1997).

4.3.4 The Current Research

Considering the research subject and context, the researcher has adopted the pragmatic paradigm. The pragmatic paradigm enables the researcher to develop a framework that aligns accreditation, performance measurement and quality management, while including the external and internal contexts.

Moreover, according to O'Cathain (2010) the pragmatic paradigm holds the means to explain mixed methods research, as it holds the belief that there is an external context that can only be transferable through individuals' experiences.

Thus, the adoption of the pragmatic paradigm is justified through: the use of mixed methods in this research, the lack of research in this field which combines all three elements and the ability to incorporate both interpretivism and positivism in the same research.

4.4 Research Approach

Easterby-Smith, Thorpe and Lowe (2002) state that research approaches are important because they enable making informed decisions about the research design, choosing the most appropriate research strategy and knowledge about the different research strategies while providing the information required to choose the most appropriate strategy for the research.

Moreover, there are three approaches for research: deductive, inductive and abductive (Svennevig, 2001), which will be explained in the following sections. Additionally, according to many researchers' induction and deduction are linked (e.g. (Miles and Huberman, 1994; Richards 1993; Parkhe 1993; Popper, 1972) and the abductive approach

demonstrates this link. It is important to note that these approaches deal with the use of theory either prior to data collection or a theory emerging from the data (Perry, 1998).

Grounded theory is an example of a purely inductive approach as it starts without any theory and the theory is developed through the research, while the deductive approach is concerned with testing hypotheses derived from an existing theory (Perry, 1998). Table 4.1 provides a comparison between deductive and inductive approaches.

Table 4.1 Deductive and Inductive Research Approaches

Deductive	Inductive
Scientific approaches	Social sciences
Rigid structure	More flexible structure
Theory then data	Theory follows data
Theory-hypotheses-data collection and analysis- confirm the theory or retest	Collect the data and analyse it- then theory
Generalizable	No need to generalize
Quick data collection	Long period of data collection
Mono method	Multi method
Low risk	High risk
Theory is important	Context is important
Researcher independent of the research	Researcher is part of the research process
Explain causal relationships	Understanding of human feelings
Quantitative	Qualitative
Large sample size	Small sample size

Source: The Researcher

4.4.1 Deductive Approach

The deductive approach is established by following a theory or a hypothesis followed by collecting the empirical data to test the theory or hypothesis (Eriksson and Kovalainen, 2008a). Moreover, when a general theory is developed and a hypothesis is made then the research is designed to test the hypothesis (Saunders, et al., 2012). The deductive approach is adopted when the research follows a given theory prior to collecting the data so it moves from the general to the particular. It is usually adopted for quantitative, or scientific research, with a positivist epistemology. It leads to either approving the hypotheses or suggesting other approaches for improvement.

Although the researcher should be independent from the data, the advantages of this approach are demonstrated through its ability to explain relationships between variables, allow the testing of hypotheses and it is a highly-structured approach to ensure the reliability and generalisability of the data (Saunders, Lewis and Thornhill, 2012).

The disadvantages of the deductive approach include its subjectivity, as the researcher determines the theory based on its alignment with the research. Additionally, deduction allows the addition of any factors to the theory that might emerge during data gathering or analysis regardless of their significance to the research itself (Blaikie, 1993).

Moreover, deduction is usually linked to quantitative research and is not suitable for qualitative research as the reason for qualitative research is to find and explore a phenomenon from the view of the participants that would be biased if it followed a theory beforehand which is the basis of the deductive approach (Eriksson and Kovalainen, 2008a).

4.4.2 Inductive Approach

The inductive approach is when the theory is developed from the observation of empirical reality (Saunders, Lewis and Thornhill, 2009, Robson, 2002). This is usually adopted for qualitative research with an interpretivist epistemology and is usually concerned with the context of the research. Moreover, inductive inquiry begins with the data generated (empirical data) followed by the generation of a theory (Easterby-Smith, Thorpe and Jackson, 2008; Eriksson and Kovalainen, 2008a).

An advantage of the inductive approach is its elaboration and focus on understanding the nature of the problem, conducting analysis and only then concluding with a theory, while also establishing relationships between the data (Gray, 2014). This approach discusses how the theory follows the data and is used mostly in social sciences research (Saunders, Lewis and Thornhill, 2012). It is frequently constructed using qualitative data with a small sample yet through the adoption of various methods of data collection (Creswell, 2003).

However, the disadvantage of the inductive approach is the possibility of miss-assessment of the observations, while increasing the sample size could decrease the possibilities of

miss-assessment, it will not eliminate this possibility as the inductive approach is of a subjective nature (Saunders, Lewis and Thornhill, 2012).

4.4.3 Abductive Approach

The abductive approach is defined by Patokorpi (2009) and Haig (2005) as the approach which incorporates every evidence collected for the research to explain the phenomena under study. Initially it was developed to provide an in-depth understanding of a phenomena in social research and provide new input through the interpretation of the results (Reichertz, 2009).

Richards (1993) suggests that the deductive and inductive approaches are always interlinked and could be seen as a sequence and suggests that it is not necessary to start with a theory at the beginning of a study. Furthermore, according to Eriksson and Kovalainen (2008b), abduction is the movement from description and interpretation by individuals to concepts that provide comprehension of phenomena. However, Peirce (1902) referred to abduction as a means for formulating new ideas, while deduction is used to evaluate a hypothesis and induction is used to justify the theory with the data collection (Staat, 1993; Schwandt, 2001).

Abduction is an approach adopted not only to confirm a theory (the deductive approach) but also investigates data that are not incorporated in the initial theory, with the aim of developing new ideas and forming relations and connections that are not obvious or have not been considered in prior research (Meyer and Lunnay, 2013).

4.4.4 The Current Research

The current research adopts the abductive approach, as most mixed methods research applies both inductive and deductive approaches during the different stages of the research process (Eriksson and Kovalainen, 2008a). Moreover, as this thesis is pragmatic it adopts abductive reasoning which shifts between inductive and deductive and applies the use of qualitative and quantitative methods, since abduction allows the combination of both deductive and inductive approaches to gain the advantages of both while decreasing their disadvantages. Additionally, abduction allows a comprehensive analysis of the data while considering the research question, aims and objectives.

Thus, for the purpose of this research, the abductive approach has been adopted as it enables the investigation of the theory in depth and provides a deeper understanding of the phenomenon, while providing the possibility of new outcomes from factors and connections that have not been considered in prior research (Meyer and Lunnay, 2013).

4.5 Research Methods

Crotty (1998) defines methods as the process for data collection and analysis, which is why he argues that the difference between the different methods could be seen through the data itself rather than theoretically. He also states that it is quite important to know the differences between the different methods so as to make an informed choice about the most appropriate method for the intended research (Bryman and Bell, 2003). Moreover, Eriksson and Kovalainen (2008) support the same notion of research methods being the means of data collection and analysis.

The different methods of research are displayed in Figure (4.1); however, according to the literature it is mainly divided into qualitative, quantitative and mixed methods. Thus, this section will describe the different methods available and the chosen methods for the current research will be explained and justified.
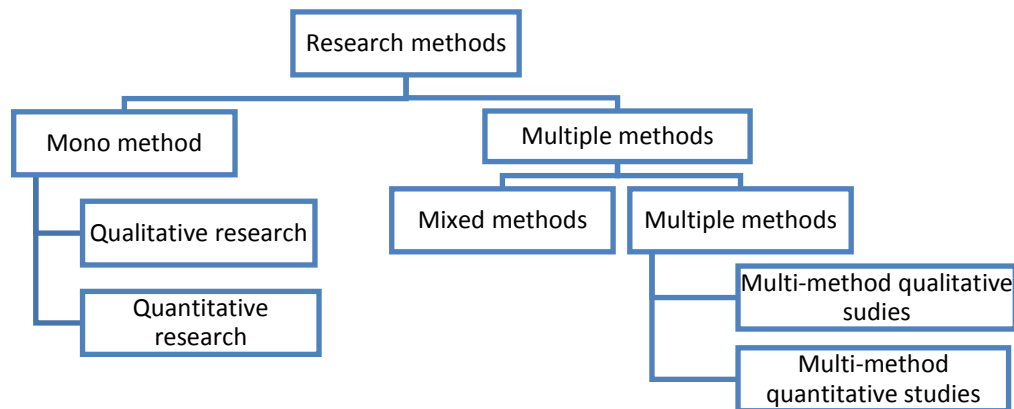
Figure 4.1 Research Methods.

Source: Saunders, Lewis and Thornhill (2012).

4.5.1 Qualitative Vs. Quantitative Research

Qualitative and quantitative research are the main methods of collecting data in the research community (Creswell, 2003; Neuman, 2005). The choice from these methods, usually depends on the paradigm adopted, the topic of study, research aims, objectives and questions and the assumptions of the researcher (Yauch and Steudel, 2003).

Qualitative research is defined by Patton (1990) as the process of understanding the interactions of a phenomenon in its context, while Creswell (1998) describes it as an investigation conducted through research methodology to understand a phenomenon. Moreover, the investigation provides a more general understanding through analysing words, experiences and perceptions in the context of the phenomenon (Creswell, 1998). It is usually associated with interviews, the interpretive paradigm and an inductive approach as explained in Sections 4.4.1 and 4.4.2. Also, it is concerned with the overall context, how interactions occur and are perceived. However, other methods of collection for qualitative data include focus groups, observations and document analysis.

Furthermore, qualitative analysis is interested in the interactions, feelings and experiences of people, through open-ended and subjective questions, which lead to its ability to acquire a large amount of information on a phenomenon from a small sample (Anderson, 1998). However, a disadvantage of qualitative research is that it necessitates a small sample which detracts from the generalizability of the data; in addition to the researcher being involved with the respondents which makes the results subjective.

On the other hand, quantitative methods are used to test hypotheses regarding relationships between different variables and is usually associated with surveys, experiments and deductive reasoning as discussed previously in Section 4.4.1. This method of research mainly adopts the positivist paradigm and objectivist ontology, as it is based on rules and logic and requires numbers to deliver measurable facts that could be analysed statistically and provide generalizability (Creswell, 2009; Weaver and Olson, 2006; Halcomb and Andrew, 2005).

Furthermore, quantitative research is presented in graphs, charts and tables and it requires a large sample which is considered to be one of its advantages as it requires a large number

of respondents which affords the possibility to generalize the data (Black,1999). Nonetheless, it still has a disadvantage which is the limitation that the respondents can only respond using that the answers provided (Anderson, 1998).

The differences between these methods have been discussed at length by the research community and Table 4.2 summarizes the main differences between the two methods (Maxwell, 1998; Thomas, 2003; Corbetta, 2003).

In summary, qualitative research is used to understand the data, develop a tool and framework through the interpretation of people's experiences, while quantitative research tests hypotheses, provides tools and provides the ability to generalize the data.

Table 4.2 Differences Between Quantitative and Qualitative Research

	Qualitative Research	Quantitative Research
Philosophy	Phenomenology	Positivism
Ontology	Reality is subjective and multiple	Objective apart from the researcher
Epistemology	Researcher interacts with participants	Researcher independent from participants
Goal	Understand, meaning, unique case selection	Prediction, test hypothesis, generalization
Data	Words, pictures, video clips (non-verbal)	Numeric, pre-set answers
Method	Ethnography/Action research, case study, archival research and grounded theory	Experiments/models
Methodology • Process of research • Purpose	Inductive process Context bound Mutual interactions To understand and interpret; To critique and to identify potential; To describe variation in a phenomenon, situation, issue etc.	Deductive process Context free Cause and effect To explain and predict; To quantify extent of variation in a phenomenon, situation, issue etc.
Data collection techniques	Interviews, observation, documents, artefacts, focus groups	Questionnaires, secondary data, telephone interviews, structured interviews
Research question	Broad or central "how" questions, complex, interpretations	Descriptive, comparative and relationship "why" questions
Research design	Flexible, emerging	Structured, predetermined
Sample	Small, purposeful	Large, random, representative
Approach	Inductive	Deductive
Data analysis procedure	Categorizing data (thematic analysis, content analysis), narratives, and observation data.	Graphs or statistics, frequency, distributions.

Source: Researcher devised from Bryman and Bell (2003) and Creswell (2003).

The following sections will discuss the ability to combine these methods through a discussion of mixed and multi methods.

4.5.2 Mixed Methods Research

Since 1973 mixed methods research has been a topic of debate and is still undergoing updates with recent research (Creswell and Plano Clark, 2007; Bryman, 2006; Tashakkori and Teddlie, 2003b; Brannen, 1992; Bryman, 1988; Sieber, 1973). Moreover, research in healthcare has been a contributor to these updates and specifically in the area of qualitative and health services research (O'Cathain and Thomas, 2006; Morse, 2005; Adamson, 2005; Johnstone, 2004; Barbour, 1999; Morgan, 1998; Morse, 1991).

Mixed methods research is defined as the combination of data collection and analysis, of both qualitative and quantitative approaches and its application for one study of scientific research (Creswell, Fetters and Ivankova, 2004).

It has been assumed that quantitative methods are limited only to positivism and qualitative to interpretivism, however, Bryman (1988) challenged this view and stated that there is no specific method that is only used for a specific paradigm and therefore methods and paradigms can be mixed, which agrees with the concept of mixed methods.

Pragmatism (discussed in Section 4.3.3) is a means to explain mixed methods as it holds the belief that there is an external context which is only transferable through individuals' experiences and that these experiences can be uncertain as they have not been discussed before. The aforementioned, allows the use of qualitative and quantitative methods in one study, which in turn allows the incorporation of multiple paradigms under one paradigm (Greene and Caracelli, 2003; Hammersley, 1990).

The primary reason for adopting mixed methods is comprehensiveness, which allows a broad understanding of the phenomena or study, as it provides two sets of data that would provide more insight (Morse, 2003). An example of that in healthcare is a survey and interview study conducted by Rogers and Nicolaas (1998), to explore patterns of care. The surveys investigated people's use of the services, while the interviews gathered information on how experiences and context affected the individuals.

Moreover, mixed methods also provides confidence, if the results of both methods agree with each other, as it provides high validity but this has been criticized since it does not work when the results are contradictory (Barbour, 1999; Murphy et al., 1998). However, contradictory results could provide insights leading to new findings that are different from what would be expected. Furthermore, according to Sandelowski (2000) mixed methods provides facilitation for data collection; for example, the current study conducted interviews with the management which enabled ease of access to distribute surveys to the staff and acquire a large number of responses.

Emancipation is another positive for mixed methods, as it allows the incorporation of marginalised groups and provides equality, especially in health services research where it would incorporate the views of all stakeholders through qualitative data (O'Cathain, Murphy and Nicholl, 2007b; Mertens, 2003). In the present research, questionnaires were utilised to incorporate the staff's views and interviews were utilised to inspect the views of the middle and top management of hospitals and accreditation organizations. However, as the current research aims and objectives focus on staff, management and accreditations' perceptions, the inclusion of patients and other stakeholders were not incorporated and the staff were considered the marginalised group.

Nevertheless, mixed methods researchers have been faced with the criticism of justification as to why combining both approaches for data collection would be more valuable than collecting and presenting the data separately (O'Cathain, Murphy and Nicholl, 2007a; Teddlie and Tashakkori, 2003; Barbour, 1999). The present research adopted mixed methods for its comprehensiveness and its ability to facilitate distribution, to provide new knowledge and develop a framework.

There are different reasons for combining qualitative and quantitative approaches, some of which are for: complementary reasons, where each approach is used to explain the other and complete a different section of the research question. Another reason would be for confirmation and that is when two methods are compared to reach an agreement, which holds the disadvantage that could take a long time to achieve and reach agreement. The third and final reason for the adoption of mixed methods research would be for

developmental reasons and this is where each method supports the other (Greene, Caracelli and Graham, 1989).

Additionally, mixed methods could be more dominated by one approach than the other. When this occurs it is hard to qualify it as mixed methods as it also depends on the stages when each method was conducted, either concurrently, or sequentially or iteratively, which is when one method is conducted to generate a theory or hypothesis followed by the other approach to test it (Morgan, 1998).

Mixed methods research has been heavily adopted in the area of evaluation, specifically with concurrent timing (McConney, Rudd and Ayres, 2002; Greene, Caracelli and Graham, 1989; Oakley et al., 2006). Also, it is worth noting that concurrent timings are adopted by most health research (O'Cathain, Murphy and Nicholl, 2007b). Thus, this research adopts the concurrent approach to mixed methods research.

Finally, it is important to note that qualitative research aims to achieve trustworthiness, while quantitative research aims to achieve rationality but when both are combined to form mixed methods the main goal is to ensure quality and legitimacy of the data (O'Cathain, 2010; Murphy *et al.*, 1998). As this section discussed the mixed method the next section will discuss multimethod.

4.5.3 Mixed vs. Multimethod

Multimethod research is defined by Morse (2003) as the process of conducting multiple research methods, with each method being conducted and analysed by itself to compose one scientific research. While mixed methods research is defined as the process of integrating multiple methods in one scientific research, where a method is conducted to support the core method of research (Morse, 2003).

Thus, multimethod is a method that adopts a group of methods either qualitative or quantitative or both which are conducted and analysed separately then triangulated; for example, conducting a focus group then conducting one-to-one interviews would be a qualitative multimethod study. In this study, a mixed methods approach has been used as a means to combine the advantages of both approaches (Section 4.5.2).

While multimethod is about conducting the same method or different methods more than once to triangulate so as to reinforce the results, mixed methods adopts different methods to reinforce its results while providing an increase in the study's reliability (Coyle and Williams, 2000).

Mixed methods uses both quantitative and qualitative methods either at the same time in parallel or one after the other (sequential) Figure 4.2 illustrates the processes the current research adopted to collect its data which is in the concurrent form.

```
┌──────────────┐     ┌──────────────┐     ┌──────────────┐
│  Prepare     │     │   Conduct    │     │              │
│  interview   │ ──> │  interviews  │ ──> │ Analyse data │
│  questions   │     │              │     │              │
└──────────────┘     └──────────────┘     └──────────────┘

┌──────────────┐     ┌──────────────┐     ┌──────────────┐
│   Desing     │     │  Distribute  │     │   Analyse    │
│ questionnaire│ ──> │questionnaires│ ──> │    data      │
└──────────────┘     └──────────────┘     └──────────────┘
```
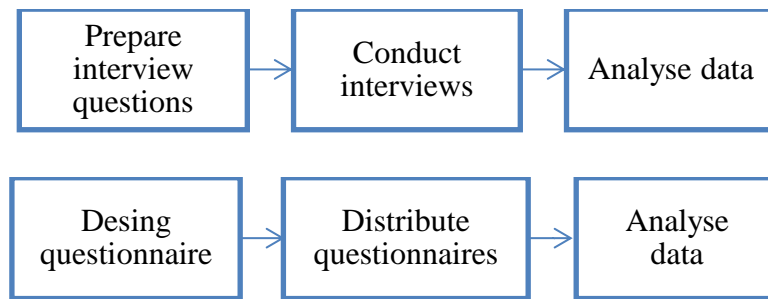
Figure 4.2 Data Collection Process.

Source: Researcher.

Moreover, mixed methods holds the advantage of providing the ability to adopt different methods to answer a research question, enable support for the data collected and provide the ability to triangulate the data (Creswell, 2009). Furthermore, according to Coyle and Williams (2000), mixed methods provides more accurate and reliable findings, allows the adoption of multiple paradigms and answering different research questions while developing a balanced view compared to a single research approach (Gelo, Braakmann and Benetka, 2008; Morse and Chung, 2003). As multimethod research depends on triangulation, the next section will discuss it briefly then the current research approach will be discussed.

4.5.4 Triangulation

Triangulation has been discussed extensively by researchers (Massey, 1999; Flick, 1992; McPhee, 1992; Blaikie, 1991; Fielding and Fielding, 1986; Silverman, 1985). The primary reason for triangulation is to reduce uncertainty and increase the validity of data that is collected through one method by the interpretation of the data using another method,

whether the methods are quantitative only, qualitative only or two methods from different approaches (Bergman, 2008).

Erzberger and Kelle (2003), argue that triangulation has not been defined or structured clearly when it comes to mixed methods. Thus, triangulation gives priority to some methods over the others, or assumes that both methods complement each other even if they can give the full answer solely without the other method.

A debate continues about whether triangulation would be reliable with mixed methods or with multimethod, and is still heavily criticized for its use with mixed methods. However, further discussion of the matter is beyond the scope of this thesis.

4.5.5 The Current Research

In this research, the researcher found it necessary to collect qualitative data, in order to achieve an in-depth understanding of the internal environment while, in parallel, to collect quantitative data to incorporate the participants' views and experiences and enable generalizability of the data. Thus, this research was conducted using mixed methods data collection concurrently, qualitative data were collected through semi-structured interviews with managers which allowed ease of access to conduct the quantitative data collection through questionnaires distributed to staff. This method helped to explore the area of interest, develop the framework and achieve the research aims, objectives and answer the research questions, through providing an in-depth answer that is valid, relevant and reliable. The next section will discuss the strategies of data collection adopted by this research.

4.6 Research Strategy

Bryman (2008) defined research strategy as the orientation of the method used to accomplish the research goals by collecting data and interpreting them, while (Blaikie, 1993) describes the research strategy as the linkage between the data collection, analysis and the researcher. On the other hand, Yin (2003) holds the belief that any strategy could be applied as long as it answers the research question and achieves the objectives of the research.

As research strategy lays down a guide for conducting the research, different strategies can be implemented with different designs and purposes, as they are guided by the research question, objectives and approach (Saunders, 2012). The common strategies applicable in management studies include: case study, experiment and survey strategies (Yin,2003; Creswell, 2013; Collis and Hussey, 2009).

Following from what was mentioned in Sections 4.5.2 and 4.5.5, this research adopts a mixed methods approach and will follow on the works of Rogers and Nicolaas (1998) in the adoption of surveys and interviews for data collection. The surveys were grouped into case-studies to allow cross-case analysis of the different departments where interviews took place and relate it to the answers obtained from the survey, which provided a more reliable and valid data analysis.

Furthermore, Figure (4.3) illustrates this research's design, as it follows the pragmatism philosophy, with an abductive approach. It is conducted through mixed methods through case studies and questionnaires distributed in a cross-sectional manner.
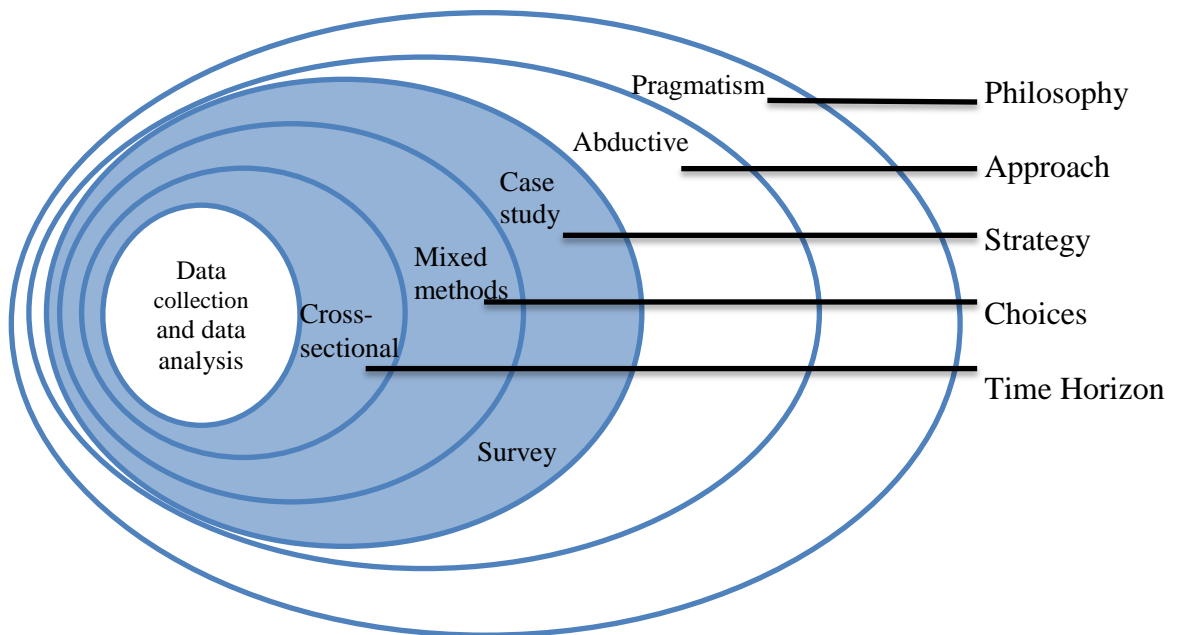
Figure 4.3 Current Research Approach

Source: Adapted from Saunders, Lewis and Thornhill (2009, p138).

Thus, this section will discuss case studies and surveys in mixed methods research and their application in the current research.

4.6.1 Case Study

A case study strategy is one of the most reliable and widely used approaches in business studies, as it provides the researcher with the opportunity to challenge existing theories due to its in-depth understanding of the phenomenon studied and its context (Saunders, Lewis and Thornhill, 2012).

Different definitions for case studies are available. Robson (2002) defines it as the investigation of a phenomenon in its context through different methods of investigation, while Eisenhardt (1989) defines it as a strategy developed to comprehend the external and internal surroundings of a phenomenon. However, Stake (1994), states that case studies are defined by each case and its components, not by how they are collected.

Case studies are conducted in different ways, but the most discussed approaches are developed by Yin (2003) and Stake (1994). According to Yin (2003), case studies are divided into two main alternatives, which are:

- *Single Vs. Multiple case study:*

Where either one case study represents a critical case or multiple case studies are conducted to provide the ability to generalize the results. Yin (2003), also suggests that "multiple cases" should represent "multiple studies" not "multiple participants", to allow replication and not sampling logic.

- *Holistic Vs. embedded case study:*

Where the research is either conducting the case study on an organization as a whole entity, which is "holistic", or on the sub-units of the organization, which is "embedded"; for example, if the study was on a hospital, a holistic study will inspect the hospital as a whole, while an embedded study would explore the different departments.

On the other hand, Stake (1994), divides case studies into three categories:

- Intrinsic: which seeks understanding of a particular case, either for its uniqueness or its being representative.
- Instrumental: provides extra insight into an issue, or a problem, or a theory.
- Collective: is where several cases are compared or combined to understand a phenomenon, which is similar to a multiple case study as explained by (Yin, 2003).

Furthermore, Stake (1994), suggests that the choice of cases should not be based on representation. While Yin (2003), suggests that it should be made either to predict similarities between the cases and the literature, which allows exact replication, or to contrast with cases available in the literature, which allows for theoretical replication. Moreover, this method is supported by many studies which support purposeful sampling instead of random sampling, as stated by Eisenhardt (1989) where the inability of random sampling to meet the goals of cases was mentioned. It should be noted that multiple case studies analysis starts with analysing each case study individually before conducting the cross-case analysis; thus, every case is analysed first then as a group.

The strengths of case studies are evident through the ability of the researcher to control the boundaries of the research, its flexibility in adopting different data collection methods and the ability to conduct various analyses on a single case study (Yin, 2003; Yin, 1984). Moreover, data collection for case studies could be conducted qualitatively, quantitatively or using a mixture of both. Thus, data for care studies can be collected through interviews, observations, documents and questionnaires (Yin, 1984). Furthermore, this strategy is adopted more by exploratory and explanatory research as it provides a wide understanding of the research topic.

However, case studies do have their limitations, one of which is the risk of the interpretation being biased and that is the most common limitation mentioned for case studies (Yin, 2009). Another limitation is that case studies lack systematic information gathering, but this has been addressed by Yin (2003) where it was stated that case studies are systematic as each case study is reported and analysed separately. Moreover, case studies could gain information related only to the phenomenon under research and its interpretation could provide information about connections between entities but not the direction of the connection as suggested by Cavaye (1996); but this was answered by

Bassett (2004) and Yin (2009) by explaining the main reason behind case studies is to generalise the theory not the population.

Nevertheless, as the current research is mixed methods and follows the pragmatic paradigm, qualitative data are linked with the quantitative data, and comparisons are made (see Chapter 5 and 6).

4.6.2 Surveys

Surveys are a popular strategy for business and management research (Robson, 2002; Yin, 2003; Easterby-Smith, Thorpe and Jackson, 2008; Collis and Hussey, 2009; Creswell, 2013). They are usually implemented with the deductive approach, which is generally quantitative in nature, with descriptive and exploratory research purposes, as it provides the ability to address a wide sample, which is representative.

Surveys could be developed in many forms other than questionnaires, such as in the form of structured interviews or structured observations (Saunders, Lewis and Thornhill, 2012). Moreover, according to Sarantakos (2005) surveys is a method to collect data that could either be conducted through questionnaires or structured interviews. In this context, hospitals use structured surveys to measure the performance of the hospital against international and national standards; an example would include the UK, where hospitals are required to provide their performance surveys to the Department of Health on an annual basis (Verboncu and Ganescu, 2010).

Surveys have the advantage of being able to reach a large number of people through random sampling which is structured and standardised. They are also able to reach a large sample with low costs, affording generalizable results that explain relationships between the data collected through statistical analysis (Bell, 2010). Moreover, it is a versatile strategy as surveys could be developed to measure any topic of interest and obtain the different views of many people (Blackstone, 2012).

However, it still holds the disadvantage of being time consuming, to prepare the questionnaire, pilot test it, conducting the analysis to ensure validity and reliability (Saunders, Lewis and Thornhill, 2012). Moreover, surveys are considered inflexible as it

limits the answers to the set of questions and does not enable obtaining information that could be related but not considered in the questions (Blackstone, 2012).

4.6.3 The Current Research

The current research follows on the works of Eisenhardt and Bourgeois (1988) and Roger and Nicolaas (1998), in combining both qualitative data, gathered through interviews, and quantitative data, gathered through questionnaires. While case studies are usually conducted with qualitative data, the addition of using quantitative data provides the possibility of identifying relationships that could not be apparent otherwise. It also makes the research more substantial, which could be undermined by unclear interview data and potentially add support for qualitative data (Eisenhardt, 1989).

This research follows the multiple case study approach, to allow cross-case analysis, with the embedded case study approach as it combines the same departments from the different hospitals into cases, hence the cases are divided by departments. As this allows each case to be analysed individually before the group analysis, which provides the potential of generalizability (Eisenhardt, 1989).

Moreover, the case study strategy has been applied for its ability to provide an in-depth understanding of the alignment of the three main concepts of the research from the management and accreditation organization's view. While, the questionnaires were adopted to investigate the staff's view on the alignment and provide generalisability to the data. Additionally, both approaches were customised to help test the conceptual framework and obtain new insights into different constructs that could be included (Eisenhardt and Graebner, 2007).

Furthermore, the researcher distributed questionnaires to hospital staff to gain understanding of the internal context of this study, to support the qualitative data collected and to confirm the framework suggested. Before conducting the main data collection, a pilot study was conducted to evaluate the questionnaire and interview questions while also relate its reliability and correlation to the framework. The sample and population were determined through the research design and are explained in the following section.

4.7 Sampling

Sampling is defined as "the process of selecting observations that will be analysed for research purposes" (Bell, 2010, p168). As this research is mixed methods research the sample is divided into quantitative and qualitative samples.

According to Onwuegbuzie and Leech (2005) quantitative research tends to adopt the random sampling technique while qualitative research tends to adopt non-random sampling. However, any type of research can adopt any sampling technique that would help reach the research objectives and answer the research questions. Onwuegbuzie and Collins (2007) categorized sampling for mixed methods research in a table which demonstrates the different schemes for data sampling (Table 4.3).

Table 4.3 Table Matrix Crossing Type of Sampling Scheme.

		Qualitative Components	
		Random sampling	Non-random sampling
Quantitative components	Random sampling	Rare combination (Type 4)	Occasional Combination (Type 1)
	Non-random sampling	Very Rare Combination (Type 3)	Frequent Combination (Type 2)

 Source: Onwuegbuzie and Collins (2007)

Thus, for mixed methods research the frequent schemes are either Type 2 where both samples are collected through non-random sampling, or Type 1, which is more most frequent, where the quantitative sample is collected through random sampling and the qualitative sample through non-random sampling.

The sample population is collected from hospitals (management and staff) besides the two interviews with the accreditation organization. However, as hospitals are organizations that can give only limited access and limited free time, the data was collected through non-random sampling techniques as preferred by most of the literature for case studies (e.g.

Eisenhardt and Bourgeois, 1988; Pettigrew, 1988), in addition to its cooperation with the current research epistemology, aims and objectives. Moreover, it was confirmed by researchers that if a small number of cases are available, it will be essential to have cases that collect rich data, which in turn makes specifying the sample size depend on the research question, objectives and strategy selected (Neuman, 2005).

Furthermore, for selecting the case studies many researchers have agreed on the importance of the content of the interview and how much rich data comes from the interviews rather than the number of cases (Eisenhardt, 1989; Lincoln and Guba, 1985). However, some recommendations came through the experience of the researchers, between 4 and 10 cases was suggested by Eisenhardt (1989), while Hedges (1985) suggested a minimum of 2 cases with the recommendation of 6 when conducting big projects and a maximum of 12.

On the other hand, Miles and Huberman (1994), recommend not more than 15 cases as that would make the study "unwieldy". Moreover, according to Saunders, Lewis and Thornhill (2012) semi structured interview's sample size should be from 5 to 25 interviews. In conclusion, the range should be between a minimum of 2 to 4 and a maximum of 12 to 15 (Perry, 1998).

Moreover, purposeful sampling was adopted for the multiple case study strategy for its ability to replicate the findings and relate it to the conceptual framework through confirmation, contradiction or addition to the concepts in the framework (Eisenhardt and Graebner, 2007; Perry, 1998).

For the questionnaire, there are two options, either to collect data through purposeful sampling or stratified sampling, which will lead to the same result as the inclusion criteria had to be for the departments dealing with accreditation, rather than for the whole hospital (Bell, 2012). The next section will specify the sampling technique adopted by the current research.

4.7.1 The Current Sampling Technique

As the sample required is hard to access, the qualitative data were collected though purposive sampling, which is in contrast to random sampling, as it selects the sample based

on a specific criterion which was adopted and demonstrated through using: heterogeneous sampling and typical case sampling (Hammond and Wellington, 2013). Heterogeneous sampling is a sampling technique based on the researcher's judgment, as the criteria are listed prior to the data collection and the purpose is to explore the different aspects, not the size, of the sample; this allows the inclusion of different groups within the population to develop key themes (Patton, 2002). Furthermore, typical case sampling is a technique that provides a sample that represents a case, while also demonstrating the norms for each selected case to provide an illustration of what the norm is (Saunders, Lewis and Thornhill, 2012).

Thus, the sample for this study was collected through non-random sampling technique following on Type 2 in the sampling matrix (Table 4.3). Moreover, the inclusion criteria for the hospitals were their acquisition of the Joint Commission International Accreditation certificate as it is the most popular accreditation organization worldwide, which resulted in the data being collected from 5 different hospitals, in different cities in Saudi Arabia. In addition, the sample also included interviews with international and national accreditation organisations.

The justification for the number of cases in this study follows advice given by Patton (2002):

> *"The validity, meaningfulness and insights generated from qualitative inquiry have more to do with the information-richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size."* (Patton, 2002, p169).

Moreover, the inclusion criteria for the members of the organization, depended on the departments and the personnel with whom the accreditation organizations' surveyors interacted during the assessment. For the management, interviews were conducted with the head of the hospital or the medical director, as the top line management in the hospital. Also, interviews were conducted with the quality and training managers for their direct contact with the accreditation process and their role in achieving the accreditation. As for the staff, the questionnaires were distributed to the departments dealing with the accreditation of the hospital and the departments which acquired the accreditation related to

their speciality, which resulted in the inclusion of the nursing, quality, training, laboratory and research and development departments. The next section will discuss the pilot study conducted to test the questions and structure of the interviews and questionnaires.

4.8 Pilot Study

Pilot testing is conducted to ensure clarity of the questions administered whether through questionnaires or interviews, as feedback from the pilot study provides insight into the response rate and any necessary amendments (Bell, 2010).

The pilot study for this research involved three interviews and the distribution of 100 questionnaires. The interviewees included the medical director, training manager and the quality director of the hospital, while the questionnaires were distributed to the nursing, laboratory, training and quality departments.

The pilot testing included questions formulated to answer the research questions and questions related to the framework suggested by this research. Moreover, the feedback gathered helped improve the interview questions, the structure of the questionnaire, its content and reliability and alignment with the framework.

Furthermore, feedback from the interviews resulted with a change to the order of the interview questions and the wording of some of the questionnaire questions, as each department has a different degree of involvement with the accreditation process. Also, as these departments are the busiest in the hospitals interview lengths averaged around 10 minutes.

Additionally, for the questionnaire a pilot of 100 questionnaires were distributed to the nursing, laboratory, training and quality staff, with a response rate of 81% (81 questionnaires were returned). Figure 4.4 shows the proportions of responses from the different departments.
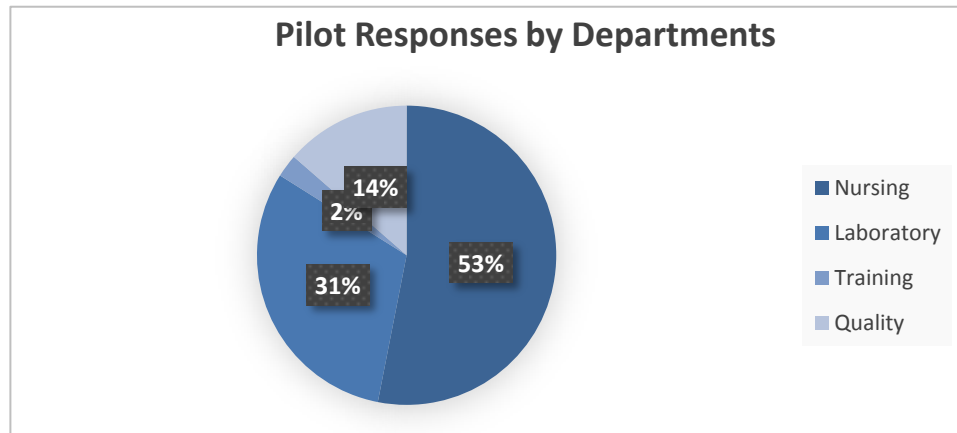
Figure 4.4 Pilot Responses by Department

Source: The Researcher.

Feedback from the pilot questionnaire led to using simplified terminology, which meant changing a technical term and readjusting the questions to make the structure easier to understand. It also included adding more departments, as hospitals differ with which departments are involved with accreditation and it also provided the ability to achieve a larger sample for the main data collection. Thus, the final questionnaire was reformulated without technical terms.

4.9 Details About Data Collection

The response to the request for data from the hospitals varied between cooperative and extremely difficult, as hospitals are among the busiest organizations in any country (Jaafaripooyan, 2011). The next sections will discuss the interviews and questionnaires that were developed and distributed for this research. It should be noted that both interviews and questionnaires were conducted in the English language which was due to the diversity of the staff in hospitals, who are from different countries, and because English is the language taught at university level especially for medical specialities.

4.9.1 The Interview

This section covers the discussion regarding the different types of interviews, the development of the interview questions and selection of the sample of interviewees. DeMarrais (2004) describes interviews as a discussion conducted between the researcher and the participant through questions regarding a research phenomenon. Moreover,

interviews allow access to information even after the interview was conducted through audio recording.

Furthermore, interviews are usually conducted one to one, to provide freedom to the conversation and openness for the research topic. However, that was in the past as interviews had to be done in person or through writing letters but following the enhancement in technology, now it could be conducted through emails, video or audio transmissions.

There are three types of interviews: unstructured, semi-structured and structured interviews, Figure 4.5 shows these types and their main characteristics.

Unstructured	Semi-srtuctured	Structured
• Open ended questions. • No predetermined questions or order. • To gain knowledge of an unknown topic.	• Open and closed ended questions • Predetermined questions with no order. • Easy to ask questions on the response you receive.	• Closed ended questions. • set of predetermined questions and order. • quantifiable responses.

Figure 4.5 Types of Interview

Source: Researcher.

Unstructured interviews are usually adopted when the interviewer has little or no knowledge about the topic, these interviews are considered informal interviews as there are no prepared questions, which makes all the questions open-ended and the interviewees have the chance to express and elaborate on their own opinions about the topic (Wengraf, 2001). In addition, this type of interview is considered interviewee driven which takes the control from the interviewer and each interview will be different, consistency of the data cannot be met (Morse, 2012).

However, this type of interview is rarely conducted for data collection, as it requires a lot of skills from the interviewer to control the interview and is usually adopted to build an understanding of the topic for a researcher with no background (Merriam and Tisdell,

2015). Nonetheless, an advantage of unstructured interviews is the availability of large amounts of data generated, that is accompanied with the disadvantage of the data not necessarily being directly related to the research purpose.

On the other hand, semi-structured interviews are interviews with a predetermined set of questions and a preliminary methodological order, but with the freedom to ask, or abstain from asking, certain questions depending on the interview pace and stage, while other questions could be generated on the spot if extra information is required regarding the response given. However, semi structured interviews have no set of predetermined answers (Denizen and Lincoln, 2005).

An advantage of these interviews is that any question could be raised depending on the interview's depth and the interviewees' elaboration, they can contain different types of questions at different stages of the interview, and can switch between open ended and closed questions (Saunders, Lewis and Thornhill, 2012; Morse, 2012).

Contrariwise, structured interviews are interviews with a predetermined set of questions, with closed answers, as each question has to be asked and answered and each answer has to be predicted. This type of interview is most similar to questionnaires as it is in the same form and the answers are quantified; it can be conducted on a large sample and the analysis occurs at the end of the data collection (Morse, 2012). The advantages of such interviews are its construction as it is rigidly constructed making it easy to replicate; however, it comes at the cost of not being able to ask questions on the spot regarding anything that is mentioned.

Generally, interviews have the advantage of having the possibility of being audio recorded, which enables the researcher to return to the data and analyse it easily, yet it also holds the disadvantage of being time-consuming and, according to Kvale (1996), it lacks objectivity.

4.9.1.1 Design of Research Interviews

This section covers the development of the interview questions surrounding the areas that were included in the current research based on the literature review, which included:

management commitment, quality management and employee satisfaction with the work place.

The interview questions consisted of nine open-ended questions that ranged from general knowledge of accreditation and quality, to the implementation of performance measurement in hospitals. Moreover, the topics of the questions addressed to accreditation organizations ranged from the standards of care to the national and international context of healthcare. Figure 4.6 shows process of formulating the interview questions.
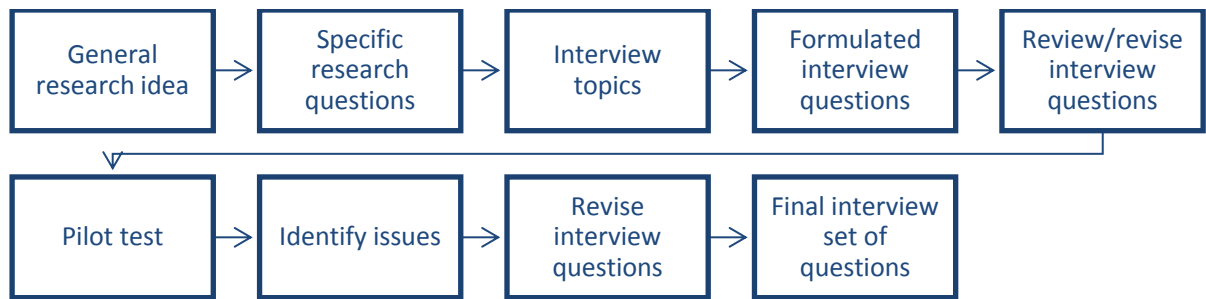
Figure 4.6 Formulating Interview Questions

Source: Bryman (2012).

As semi structured interviews are of a flexible nature, the researcher shuffled the order of the questions depending on the responses of each interviewee and the topics mentioned in the answers (Bryman, 2012). As mentioned previously, the interviews were conducted in English and were recorded, to offer consistency for transcription.

4.9.1.2 Selection of Interviewees

Participants were selected by purposive sampling as discussed in Section 4.7. This research follows the work of Harris and Sutton (1986), who collected their data from specific diverse organizations through non-random, purposeful sampling, as they acquired multiple cases for each aspect of research to provide reliability of the results.

Moreover, participants in this research were given the option to participate in the interview and complete the consent forms, they were also given the choice to fill out a questionnaire if they wished, eventually 16 interviews were conducted.

Twenty minute interviews were conducted with the managers of the hospitals and the accreditation organizations' representatives and 15 minute interviews were conducted with the medical directors and the quality and training managers of the hospitals. The difference in timing was due to the availability of the participants for the interviews, as they were conducted during working hours.

4.9.2 The Questionnaire

The questionnaire was an adaptation of different performance management surveys, altered and modified to be suitable for this research (Althonayan, 2013; PROJECTS4MBA, 2012; Bireddy, 2008). Table 4.4 demonstrates the links between the different sections of the questionnaire and its alignment with the research questions.

- To ensure the accuracy of the questionnaire and its coverage of the different sections of the framework, a pilot questionnaire was conducted as a preliminary evaluation.

Table 4.4 Alignment of The Questionnaire

Description of section	Section of framework	Research question
Section I demographics	Internal context	N/A
Section II: • **General knowledge of accreditation, performance measurement and quality management.**	Accreditation Quality management	1. What are the implications of accreditation on hospital management and staff? 2. **How does the alignment of accreditation, performance and quality management affect hospitals performances**?
• **Management responsibility**	Internal context effect	1. How do accreditation, performance and quality management interlink in the health sector? 2. **How does the alignment of accreditation, performance and quality management affect hospitals performances**?
• **Quality management systems**	Quality management	1. What are the organizational factors which affect the adoption of accreditation? 2. **How does the alignment of accreditation, performance and quality management affect hospitals performances**?
• **Employee satisfaction with work environment**	Performance measurement	1. What are the applications of accreditation, performance measurement and quality of care? 2. **How does the alignment of accreditation, performance and quality management affect hospitals performances**?

Source: Researcher.

The questionnaire included a brief introduction, followed by two main sections. It is composed of 44 questions, covering 2 main sections, the first contain an introduction and 4 demographic questions plus a question regarding the measurement tool used in the hospital. The second contained an introduction with instructions about answering the questionnaire, followed by 39 questions distributed into: 8 yes and no questions, 16 5-Likert scale questions ranging from 'strongly agree' to 'strongly disagree', 14 5-Likert scale questions ranging from 'very satisfied' to 'not at all satisfied' and a final open ended question regarding the future of performance measurement in the hospital (see Appendix 3).

The *yes* and *no* questions covered the general knowledge of the respondents regarding quality and accreditation. The Likert scale questions covered the areas of management responsibility, quality management systems and employee satisfaction with the working environment. The expected completion time was between 10 and 15 minutes.

540 questionnaires were distributed to 5 hospitals covering the following departments: quality, laboratory, training and development staff, with the addition of some physicians who were interested in the research, this resulted in 489 responses collected.

4.10 Proposed Analysis

The following sections will discuss the different proposed analysis for each method. To analyse the interviews, they were grouped into case studies and thematic analysis was conducted. To analyse the data, SPSS was used to perform the reliability and correlation tests accompanied by factor analysis.

4.10.1 Qualitative Analysis: Interviews

The analysis of any data (qualitative or quantitative) is determined by the means of data collection, the context of the research and the expected results (Rowntree, 1991).

As there are different techniques to analyse qualitative data, the researcher followed the multiple case study analysis approach combined with thematic analysis, that is, due to the pragmatic nature of the study and the use of semi structured interviews (Morse, 2012; Yin, 2003; Kvale, 1996). First the interviews were transcribed; then the common themes were derived; after that the cases were formed; then the key themes and categories were selected

followed by continuous review of the findings (Lamnek, 1989). However, according to Morse (2012) themes can recur but not necessarily across all the interviews of each case study, as every case study covers different departments.

Thematic analysis is the process of "encoding" qualitative data, to make it easy to compare instead of paragraphs and interviews to themes that are drawn from these interviews. Moreover, a set of codes is explained by Boyatwzis, (1998), as themes and interpretations that are related. Furthermore, one of the advantages of case studies is their flexibility and allowance for the data to be interpreted after coding the themes depending on the research aims, objectives and questions which guide the analysis (Boyatwzis, 1998).

Additionally, this is supported by the main literature on case studies that include: Yin (1981,1984, 2003) which describe the design of case study research, and Miles and Huberman (1984) which provides the analysis process for qualitative data through coding the processes (Yin, 1981; Yin, 1984; Yin, 2003; Miles and Huberman, 1984).

Also, the analysis of case studies is concerned with investigating each case well enough to analyse it, as this allows the themes to emerge before generalizing the results which allows for cross-case analysis and speeds the process (Eisenhardt, 1989).

However, to analyse qualitative data collected through interviews there are different approaches adopted: through coding, content or thematic analysis, grounded theory, narrative and secondary analysis. The approach adopted for this research is the case study. According to Yin (2003) when adopting the case study approach the following factors should be considered: the research question is a *how* or a *why*, the manipulation of the people involved in the study is not possible and the context is of importance to the study.

In this study the three options are met, as the study answers a *how* question, the semi-structured interviews gave freedom for the interviewees to expand in the answers and as the case study is regarding the experiences of the interviewees it was of importance to consider the context.

Furthermore, this research adopts the multiple-case study approach to enable exploring the differences between and within the cases. As the goal of multiple-case studies is the ability

to replicate the results across the findings, it is essential to carefully choose the cases and define how they are divided, to be able to conduct comparisons and predict similarities or contrasting results across the cases based on Yin's (2003) theory. Moreover, multiple case studies are considered robust and reliable (Baxter and Jack, 2008). As this study covers different hospital departments it has been divided into different case studies and each case covers a department.

Finally, according to Miles and Huberman (1994), to ensure rigorousness of the case study an application of a conceptual framework needs to be considered. Similarly, Yin (2003) suggests the consideration of the research question when designing any case study. Thus, as this research developed a conceptual framework it covers the first issue of rigour and as the alignment of the research questions, aims and objectives have been considered when developing the interview questions the second issue of rigour is also covered.

Coding of Interviews

To combine both results of quantitative and qualitative data, quantifying the qualitative data can occur while coding, and the easiest way to do that is through counting the frequency of the use of the coding tags.

The interviews were recorded, after asking permission from the interviewees, to ensure that the data were the exact words of the interviewee. In addition to the interviews, some notes were taken during and after to incorporate a full understanding and main points mentioned. Moreover, after each interview transcripts were made taking into consideration the side notes, as transcribing is the practical way to go through the different aspects of the interview as it provides ease of access to the data itself.

4.10.2 Quantitative Analysis: Questionnaires

As this research uses mixed methods both qualitative and quantitative data were collected; the purpose of the quantitative data was to support and validate the findings of the qualitative data and allow the incorporation of the experience of the staff in the research data. Following the pilot study the questionnaire was modified to ensure accuracy; any questionnaires that were not completed were considered unfeasible and were removed.

Robson (2002) suggests that due to the different analytical methods for data analysis, researchers tend to choose the methods they are most familiar with. Hence, for the familiarity of the researcher with SPSS software and its ability to provide different analyses for the large number of data collected, SPSS (version 23.0.3) was used (Trochim, 2000).

Moreover, for the analysis the questionnaires were coded and given numerical tags to enable conducting the analysis. Furthermore, the analysis was conducted to ensure validity and reliability, additionally to decide on the relationships between the different constructs (factors), factor analysis was conducted, which was followed with correlation analysis. More details regarding the different statistical analyses are discussed in the data analysis chapter (Chapter 6).

4.11 Research Quality

This section will discuss the reliability and validity of the data which largely determine the quality of the research. Criteria for reliability and validity are well developed for quantitative research yet less developed for qualitative research and mixed methods (Johnson and Onwuegbuzie, 2004). Reliability and validity have been grouped under the concept of verification, which includes the accuracy and consistency of the findings (Denzin and Lincoln, 1994 and Strauss and Corbin, 1998). However, according to Seale (1999) and Onwuegbuzie and Johnson (2006) they should both refer more to the concept of "legitimacy" of the research.

4.11.1 Reliability

Reliability is usually measured for quantitative data as, for research to be reliable, it has to be replicable, that is, generate the same findings when tested with a random sample of the population (Hammersley, 1990). Reliability testing also ensures that the research is applicable to the real world (Trochim, 2000). Furthermore, its main concern is consistency (Eriksson and Kovalainen, 2008).

In addition, Bryman (2008) focuses on reliability from three angles: sufficient, compelling and rigorous. This research is considered, sufficient, compelling and rigorous as it adopts a mixed method with both qualitative and quantitative techniques for data collection, which also ensure consistency of the data.

For the qualitative data, the semi-structured interviews are not intended to be repeatable and the reason to conduct them is to understand the complexity of the phenomenon, which makes it hard to quantify and ensure its reliability. Therefore, the notion of trustworthiness is applied to qualitative research and it is of importance to demonstrate and consider throughout the research (Seale, 1999; Bogdan and Biklen, 1998). The concept of trustworthiness is described by Davies (2007) as:

> "Qualitative researchers do not normally employ any formal or precise systems of measurement; the concept of reliability is related to the rigor with which the researcher has approached the tasks of data collection and analysis and the care with which the report describes in detail the methods that have been employed – including especially, some discussion of how critical decisions were made. Often, the term 'reliability' in this sense is equated with methodological 'accuracy'." (Davies, 2007, p.241).

However, for the quantitative data, a reliability test was conducted. For questionnaires to be reliable they should provide the same results when repeated with another random sample, as this demonstrates the robustness of the questions and the consistency with the findings. The Cronbach alpha is the most used reliability test for questionnaires (Trochim and Donnell, 2007). Thus, it was used to ensure the reliability and the data demonstrated highly reliable results (Chapter 6, Section 6.6).

4.11.2 Validity

Validity is defined as "the design of research to provide credible conclusions; whether the evidence which the research offers can bear the weight of the interpretation that is put on it" (Sapsford and Jupp, 1996, p1). Validity is the assurance that the tools adopted to measure a phenomenon measure what they were designed for.

Moreover, Creswell and Plano Clark (2007) identified strategies that ensure validity and recommended the implementation of at least two of the strategies. The current research provides sequential data collection and analysis, as both data sets were collected concurrently, it also provides sample sufficiency, as the targeted departments and personnel

were relevant to the research topic. Moreover, the research provides rich and thick description as the interviews were supported with questionnaires.

Additionally, the questions for the interviews and the questionnaire were adopted from peer reviewed studies and aligned with the aims and objectives of the research (Table 4.3), accompanied with the application of mixed methods research for data collection and analysis to increase the validity.

For the quantitative data, various methods were employed to ensure its validity; these include: a reliability test for the questionnaire, a correlation test to measure the alignment of all the factors and their significance and construct validity was also measured. Construct validity is a test conducted to ensure that the questionnaire used actually measures what is was developed to measure (Sekaran, 2003). The validity tests all demonstrated positive results, the reliability test resulted in highly reliable data, the correlations showed high significance and construct validity ensured the questionnaire measured what it was intended to measure.

On the other hand, as the qualitative data were collected through interviews there was no issue of validity, as it depends on the researchers' ability to comprehend the knowledge and expertise of the interviewees (Saunders, Thornhill and Lewis, 2012). As the responsiveness and the detail included in the interviews show extensive exchange of data, this demonstrates a highly valid study. The researcher's understanding of accreditation, quality management and performance in health care helped with facilitating the interviews and conducting new and follow-up questions depending on the responses. Moreover, providing the interviewees with the information sheet about the research and the areas of focus encouraged clarity in the responses (see Section 4.12).

In addition, pilot testing ensured the validity of both the interviews and the questionnaires. According to Bell (2010) pilot testing indicates that surveys are distributed to participants to check for errors, provide feedback on the structure of the survey and content understanding, it also provides a prediction of what the data may look like. The current research considered and implemented the feedback from the pilot prior to the data collection, which indicates the validity of the data collected (see Section 4.8).

4.12 Ethical Approval

For any research, ethical approval needs to be taken into consideration; after deciding on the interview and questionnaire questions for the current study, prior to conducting the pilot study this researcher applied to Brunel University's Ethical Approval Board. The questions were submitted, in addition to the consent form, and the application was approved. The approval letter was of major importance to collecting the data as it assured the hospitals and the interviewees of the seriousness of the researcher and the importance of confidentiality.

Prior to conducting the interviews and distribution of the questionnaires, participants were shown the ethical approval. They were also provided with the consent form and the information sheet (see Appendix 1 and 2), which offered an overview of the research, confirmed the confidentiality of the information obtained and the ability of the participant to withdraw at any time.

4.13 Conclusion

This chapter covered the theory and practical dimensions of the research. This research follows the pragmatic paradigm, as it is the paradigm most appropriately related to the aims and objectives. It follows the abductive approach as the data was collected in a cross sectional manner to enable the development and testing of the framework.

As the current research aims to understand how the different concepts of accreditation, performance measurement and quality management are aligned and how they work individually and cooperatively, the method used was mixed methods as it enables the researcher to cover both aspects of qualitative and quantitative data. Thus, semi-structured interviews were the means used to collect qualitative data and questionnaires were used for the quantitative data collection. Moreover, the data collection was supported by the pilot study conducted and discussed in Section 4.8.

This chapter relates the practicality of the research to the theoretical contribution through providing the first steps in validating the framework and achieving the aims and objectives of the research. Thus, the chapter concludes with the reliability and validity of the methods used, and provides a questionnaire that could be used by hospitals to achieve internal understanding of how accreditation and performance management are implemented.
The next chapter will discuss the analysis of the qualitative data.

Chapter 5 Qualitative Analysis

5.1 Introduction

The qualitative section of the current research adopts the multiple case study strategy as discussed in the research design chapter (Chapter 4 Sections 4.6.1, 4.6.3, 4.9.1 and 4.10.1).

According to Saunders, Lewis and Thornhill (2012), the case study strategy is the most used approach for qualitative business research, as it provides an in-depth exploration of the phenomenon under study. Moreover, the multiple case study approach according to Baxter and Jack (2008) is a robust and reliable approach as it allows replication and generalisation of the results. This research also adopts the embedded case study approach, as the multiple departments from the various hospitals will be combined into case studies according to the department (Yin, 2003).

Furthermore, the case studies were conducted through semi-structured interviews and analysed through the adoption of thematic analysis (Morse, 2012; Yin, 2003; Kvale, 1996). This approach is concerned with coding the interview transcription using single words to provide ease of analysis. Additionally, the codes could be given a numerical value to allow quantitative analysis of the data (Boyatuzis, 1998).

The current research provides four case studies, where each case represents a group of interviews with the same profession from the different hospitals. Once the interviews were grouped under a case study, the different case studies underwent cross-case analysis. In the cross-case analysis, the common themes arising from the interviews could add or confirm the different sections of the framework, when considering the internal environmental factors, and provide answers to the research questions.

Moreover, the four cases investigated the different departments relevant to the present research into the effect of the alignment of accreditation of performance and quality management of hospitals. The four cases were conducted with the following participants:

1. Training department (5 interviews)

2. Quality department (4 interviews)

3. Management of the hospital (i.e. medical director (3 interviews) or hospital manager (2 interviews)

4. Accreditation organization (2 interviews: one with the national and one with an international accreditation organization)

Hence, the interviews were conducted with two accreditation organizations and 5 different hospitals in different cities of Saudi Arabia. The range included private, teaching, tertiary and public hospitals. Depending on the availability of staff the interviews were conducted with the quality department head, training department head and either the medical director or the manager of the hospital.

These departments were approached for the following reasons: the hospital management was approached to acquire the top-level management view, while the quality management was approached as they are the link between the accreditation organization and the internal quality and performance of the hospital. Additionally, the training management was approached as they are responsible for educating and ensuring continuous development of the staff of the hospital.

Furthermore, the accreditation organizations were approached to capture the view of the external assessors on the accreditation process, its effect on hospitals and how hospitals are performing in accordance with accreditation. An international and a national accreditation organization were approached to obtain an insight into the different perceptions of each organization towards the accreditation process and its effect on the healthcare sector.

The following sections will discuss the case studies which comprise the multiple case study approach adopted by the current research, where each case will discuss the main questions, include some quotations from the interviews to demonstrate the answers, that will be followed with the main themes, an explanation of their meaning and what are the sub-codes of each theme. Following the discussion and demonstration of the themes the cross-case analysis will be presented in Section 5.3 and the conclusion of this chapter will be presented in Section 5.4.

5.2 The Multiple Case Studies

The case studies were conducted through semi-structured interviews, which took from 10 to 30 minutes, depending on the time it took the interviewees to answer the interview questions and if there were any elaboration in the answers. The interview questions were divided between general knowledge of the areas of accreditation, quality and performance, how they are incorporated in the hospital, followed by questions that were area specific for each department (for more detail see Appendix 3). The questions were either adopted from previous studies or devised on the spot for clarification of the answers (Jaafaripooyan, 2011; Damberg, Sorbero, et al., 2011; Families USA, 2014; Jaafaripooyan, Agrizzi and Akbari-Haghighi, 2011; Althonayan, 2013).

The process started with conducting the interviews, which included the recording and written comments. That was followed with the coding of the interviews, then grouping the codes into main themes, followed by the cross-case analysis where the results were compared and connected to either support the arguments suggested by the current research or contradict them.

For the representation of the training department the letter "T" will be added at the end of the quotations, while for the quality department the letter "Q" will be shown. For the management of the hospitals the letter "M" will refer to the managers and the letters "MD" will refer to the medical directors. Furthermore, for the accreditation organizations the letter "I" will refer to the international accreditation organization representative, while the letter "N" will refer to the national accreditation organization representative.

Finally, for the hospital interviews each quotation will end with a letter and a number. The numbering of the hospitals depends on the order in which the hospitals were interviewed, as the current research was conducted in five hospitals the numbers were from 1 to 5. Thus (T.1) refers to the training department of the first hospital, while (MD.4) refers to the medical director of the fourth hospital. As for the accreditation organizations, they are only represented by letters.

5.2.1 Training Department

Interviews

As the training department plays an essential part of educating the staff about accreditation it was of great importance to know how well they knew the standards, the process of accreditation and their involvement with the process, which includes expressing knowledge of performance measurement, quality and the different standards of accreditation especially the ones related to the training department.

Five interviews were conducted with the heads of the training departments of different hospitals. The letter "T" indicates the training manager, while the numbers refer to the hospitals as mentioned in point 5.2. the questions that were asked are shown in the Table 5.1.

Table 5.1 Interview Questions for The Training Department

Training department interview questions	
No.	Question
1	Were any of the accreditation standards related to your daily activities?
2	How did the training department prepare for the accreditation?
3	What were the challenges that you faced?
4	What are the system changes that occurred due to accreditation?
5	What would you consider the benefits of accreditation?
6	Were you able to give any feedback during or after the accreditation?
7	Personally, how did the accreditation affect you?

Furthermore, the questions were arranged in the following sequence, beginning with asking about the standards related to the department and the preparations to meet them and followed by questions regarding the challenges, changes made and the benefits. That was followed by a question regarding feedback to the accreditation organization and another on how accreditation influences the interviewees. The last question was asked to gain an insight into the management's perception of accreditation which provides an insight into the internal context from the management view and results in a new construct to be added to the framework.

Question (1): Were any of the accreditation standards related to your daily activities?

Question 1 asked the interviewees regarding the involvement of the head of training with the accreditation process and how accreditation is incorporated in his daily tasks requiring them to meet standards, while also questioning their knowledge about the training standards for accreditation.

All five interviewees spoke of their knowledge about the standards and how they were involved in the process of accreditation. However, the training department in the second hospital, provided some insight into the specifics of where to find the standards related to the training department in the standards manual and stated that in the Staff, Qualifications and Education (SQE) chapter any issues related to the training department are explained.

> *"The SQE chapter mainly is about staff qualification and training. It is relevant to the training department and what is required as a standard of efficiency in providing care for our patients." T.2*

As for a teaching hospital, the training department manager stated that in addition to the training department standards, there had to be an inclusion of the standards related to the training of medical students.

> *"There are two standards related specifically to the training department, one related to the education of postgraduate medical students, their training and evaluation and the second was for patient education, which is also a part of the training departments responsibilities." T.3*

Overall, the heads of the training departments were aware of the accreditation process, the standards related to their departments and how to measure and meet the accreditation standards. Moreover, it was noted that the training department managers were trying to improve hospital services.

Codes

The interviewees spoke of the importance of efficiency and the availability of standards to follow and meet, which reflects the theme of standardization. The interviewees also expressed the effect of training, proper documentation of qualifications, staff development

through education while, also providing education to patients, which all reflect the theme of education.

Question (2): How did the training department prepare for the accreditation?

After establishing knowledge of the standards related to the department, question 2 addressed how the training department prepared for the accreditation, which would show how the hospital performs to achieve high quality and performance while meeting the standards.

All five interviewees agreed that the first step to prepare the hospital for accreditation is to review the standards manual, compare the standards with the hospital's performance and inspect the areas in need of improvement to meet the standards.

> *"We evaluated the standards, to know what they would ask about and prepare for it through ensuring our files and accreditation forms are complete and available." T.3*

Moreover, the interviewees also stated that to prepare for the accreditation process it is essential to educate the staff and ensure open communication channels are available within the hospital.

> *"We did so many training sessions, as presenting standards with different departments of the hospital. First we started with the heads of department and they helped to facilitate it with the staff…We also had to ensure our staff are efficient and can do their jobs in a safe manner." T.2*

> *"We need to follow all prerequisites and work in collaboration with the quality department to meet the standards." T.5*

To summarise, in order to prepare for the accreditation, the training department has to acquire the standards, compare them to the hospital's processes, and improve what needs to be improved in order to meet the standards. Furthermore, according to the five interviews in the training department the changes that were the most significant were with regards to

documentation of every activity and requirement which was the consistent issue with most hospitals.

Codes

The interviewees communicated the importance of documentation for the preparation of accreditation which echoes the theme of standardization, as the documents need to meet the standards to become accredited. The interviewees also expressed the concepts of evaluation and collaboration which reflect the theme of involvement. Evaluation was also mentioned which could be part of the improvement theme, as it is considered a means for improvement. Furthermore, training and education were demonstrated to be vital and they reflect the theme of education.

Question (3): What were the challenges that you faced?

Question 3 addressed the challenges that was faced by the training department while preparing for accreditation. One of the main issues was documentation as hospitals had to ensure all documents are in place, completed and ready for inspection.

> *"Initially we only had the contracts available and signed, but for the accreditation we had to write detailed responsibilities and duties for each job position, to ensure they include all that is required for a position and that it is all documented and stored appropriately" T.1*

Another challenge was the lack of awareness of the public about health education, some would follow what was recommended on the internet, others would follow hearsay advice but the essential source of information, which is the physician, was always their last resort.

> *"Some of the challenges were regarding patient education but the patients here only follow what the physician say they are not interested in education" T.3*

However, the major challenge faced was how to involve the whole hospital with this process, which included the management, the quality department and the staff while staying in contact with the accreditation surveyors.

"The main challenge was to get everybody on board, to feel part of the project. Although it is very important to have the leaders on board it is also important to get the whole workforce to be part of this process...We want people to be practical with their knowledge not just theoretical and to do that we conduct numerous awareness campaigns" T.5

According to Almasabi and Thomas (2016), in the healthcare sector physicians show the highest resistance, which is supported by the current study, yet other departments also show resistance by claiming that they already have too much to deal with and complain about how accreditation requires a large amount of documentation. The different means to overcome this resistance is, as mentioned by the following interviewees, to involve the staff with the process, make them aware of its importance through professional education, make it an integral part of the induction process, ask for their input when composing performance indicators and allow them to attend accreditation training courses.

"The new staff are a major challenge especially if they do not have previous experience with accreditation, but to overcome that we provide education sessions during the orientation, support them in their departments to keep up to date with the accreditation requirements and processes" T.2

Codes

The interviewees articulated the importance of support to overcome challenges in the health sector, which could be considered under the theme of involvement. The effect of documentation as a major challenge to overcome was also expressed, and this reflects the theme of standardization (as explained previously in Question 2, Codes Section). Finally, lack of awareness was mentioned by the interviewees which comes into the theme of education.

Question (4): What are the system changes that occurred due to accreditation?

Question 4 discusses the changes that occurred to the hospital's system while preparing, during and after accreditation. During the training department interview at the first hospital,

it was revealed that the main change following accreditation was the development of a new unit, as stated in the following quotation:

> *"The most significant achievement reflected by the accreditation is the creation of a Saudi board unit, that was only created after accreditation following their recommendation" T.1*

The interviews with the other training departments expressed how accreditation established the beginning of continuous improvement for the hospital's culture and provided a mean to overcome the challenge of the diversity of the staff, through awareness campaigns and training while also establishing a culture of quality.

> *"The accreditation process became an integral part of our general orientation program and departmental orientation program" T.4*

Furthermore, accreditation also provided standardization of processes and documentation in the hospital which included, for example, a change in forms where the training department was required to combine two different forms into one form.

> *"Having all the documents available and ensuring their completion is not just for the accreditation, it is for the safety and quality of our patients' care…We streamline everything from our policies to our forms and correlate them for clarity, which will follow with developing a development plan to stay in line and keep the gain, we do not have to relax after that, we have to work from that step onwards" T.2*

The introduction of accreditation causes change in the hospital's environment that it must overcome or adapt to accomplish improvement in healthcare delivery.

Codes

The interviewees discussed the importance of continuous improvement and development, accompanied by an understanding and adoption of the culture of quality, which reflects the theme of improvement. Also, the effects of awareness and complying with standards, reflects the theme of education. Moreover, the interviewees articulated the importance of

standardization which is a theme in itself for the current research. Finally, diversity was mentioned as a change to overcome and accommodate, which reflects the theme of involvement.

Question (5): What would you consider the benefits of accreditation?

Question 5 explored the benefits of accreditation for the training department. All five interviewees agreed that accreditation causes improvement to the organization. It also creates a culture of quality, provides a sense of unity to the hospital and some even mentioned that accreditation also helps with showing areas of opportunity for improvement.

> *"The beauty of accreditation is that everybody would be speaking the same language…Everybody was participating which made the process easier and enjoyable. The second important thing is that we have a list that we will follow for improvement and finally we would have a better opportunity for better finances" T.5*

> *"Accreditation shows the areas of weaknesses and emphasizes more on documentation and correction of the system flaws, so it is something that is well needed for re-evaluation, it is like a wakeup call" T.3*

Hence, the benefits of accreditation outweigh the challenges, as even its challenges, though they require a lot of effort to overcome, in the end could provide benefits and reveal areas for continuous improvement.

Codes

The importance and the effect of evaluation were mentioned by the interviewees which reflect the theme of involvement. However, the effect of staff evolution, continuous improvement and awareness of weaknesses, all reflect the theme of improvement. Additionally, standardization and documentation have been recognized as important and they fall under the theme of standardization.

Question (6): Were you able to give any feedback during or after the accreditation?

Question 6 was concerned with confirming if accreditation organizations request feedback from the hospitals after and, sometimes during, the accreditation process All five interviewees confirmed that they requested feedback; an example is demonstrated in the following quotation:

> *"During the rounds with the accreditation surveyors we noticed what they were looking at and their feedback provided us with an official report that would help us to improve and after the accreditation we are required to send our feedback about the process" T.2*

Thus, feedback was required by the accreditation organization from the hospitals after the accreditation process and it included feedback on the surveyors and the overall experience. The interviewees also stated that they were able to provide feedback and ask questions during the accreditation process. Finally, the accreditation organization provides an official feedback report on the hospital's performance and quality of care after the accreditation, which could include changes. If changes are recommended, they are accompanied with a time limit to make the changes before the hospital could be awarded the seal of accreditation.

Codes

The concepts of feedback and teamwork were articulated in the interviews and they are considered under the theme of involvement, as they help with involving all the hospital including staff and management with the ability to report back to the accreditation organization. Experience was another concept mentioned which is grouped under the theme of education. Moreover, the importance of policies and procedures were addressed and they reflect the theme of standardization, as they are concerned with the standards that hospitals try to meet and abide by.

Question (7): Personally, how did the accreditation affect you?

The last question, question 7, is about the effect of accreditation on the interviewees themselves. Some stated that accreditation helped show the importance of documentation,

created more awareness and encouraged development. It was also stated that it helps in ensuring commitment and shows the importance of teamwork.

> *"In this hospital, we could get more people to share the burden and the experiences...accreditation helped see things more clearly, before some people were working without noticing few factors but after accreditation things became clearer." T.5*

> *"Having staff who are educated about accreditation helps me with making the development plan for all the departments and this all will feedback into the patient's care; I will help with achieving the mission and vision of the hospital which will make my work much easier." T.2*

Hence, the interviewees discussed how accreditation introduced standardization to the daily activities of the training managers, and the focus on sustaining accreditation, achieving hospital goals and ensuring the availability of a continuous development program for the hospital. Furthermore, accreditation also influenced the importance of teamwork, the goal of improving the processes at the hospital, while also improving on a personal level. Thus, the interviews demonstrated how accreditation does not just affect the hospital but also the staff and how they conduct their daily activities.

Codes

Awareness was discussed in the interviews which is part of the education of staff and the education theme. Also, the importance of documentation and clarity were mentioned, both of which reflect the theme of standardization. Moreover, the importance of teamwork and commitment was discussed, which are considered to be part of the involvement theme. Finally, development and improvement were talked about and they reflect the theme of improvement.

Main themes

The different codes that have emerged from the training department (Case 1) interviews are grouped under these main themes to allow for cross-case analysis of the cases in the current research: involvement, education, improvement and standardisation.

Involvement

As stated above in the discussion of Questions 2, 3, 4, 6 and 7, it is of importance to involve the staff, management and the whole organization with the accreditation process. Different codes have emerged from the interviews that could be grouped under involvement. As involvement is a main theme, the codes developed from the training department interviews include: commitment of the organization to accreditation, teamwork that unites the hospital and governmental support that encourages improvement and development. Figure 5.1 shows the components of the involvement theme in the training department case study.
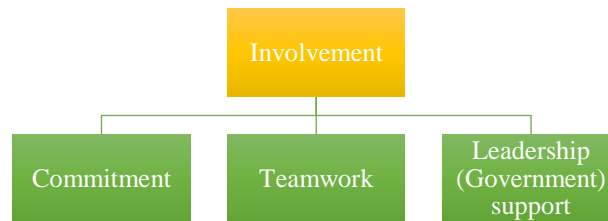
Figure 5.1 Involvement Theme

Education

Education is an integral aspect of the training department as the training department is responsible to providing education to the staff, public and the management. The education theme includes: awareness of the public, staff and management of the process, standards and importance of accreditation. Also, it includes the training of staff which ensures staff are working within their qualifications and training is available. Finally, it includes providing staff and the hospital with experience of accreditation which will help with its re-accreditation later. Figure 5.2 shows the components of the education theme in the training department case study.
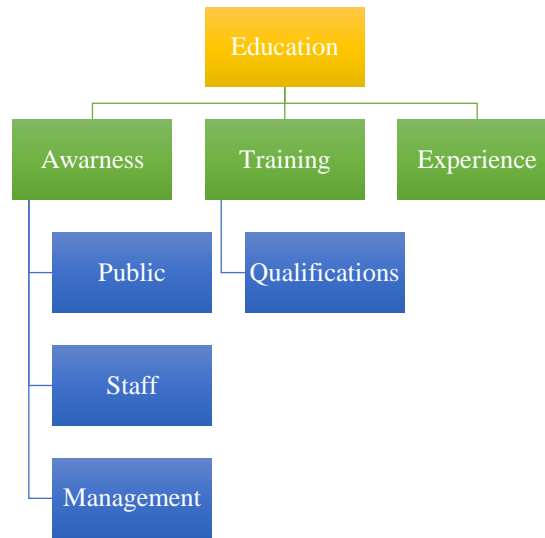
Figure 5.2 Education Theme

Improvement

Improvement as a theme has been shown repeatedly through the interviews, which is to improve healthcare delivery. This theme includes: encouraging the development of staff, ensuring continuous improvement, ensuring continuous development of quality and performance measures. Figure 5.3 shows the components of the theme of improvement.
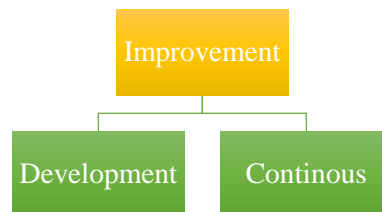
Figure 5.3 Improvement Theme

Standardization

Standardization is another integral part of the training department, as it provides a system to follow, and demonstrates efficient processes through providing standards. This theme includes: ensuring efficiency of the services and delivery of care, and documentation of policies and procedures in accordance with the forms required by accreditation. Figure 5.4 shows the standardization theme.
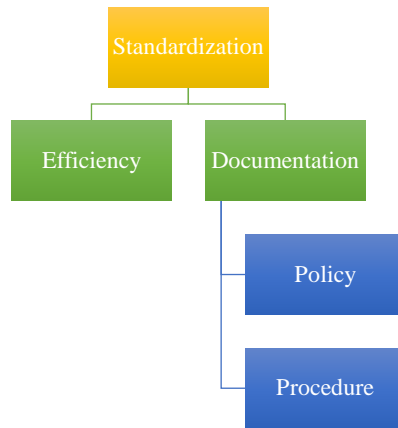
Figure 5.4 Standardization Theme

5.2.2 Quality department

Interviews

As the quality department is the pivotal link between the accreditation organization and the hospital, its job is to ensure the hospital is equipped with the correct documents, and conducts a follow-up on the amendments of the departments and the recommendations of the accreditation organization. Moreover, the quality department assigns standards for the organization based on its goals, mission and vision and it develops the standards, ensures they are met continuously and reports to the management.

Four interviews were conducted with the heads of the quality departments of different hospitals. The letter "Q" refers to the quality manager, while the numbers refer to the hospitals as mentioned in Section 5.2. The interview questions that were asked are shown in Table 5.2.

The questions for this section were arranged in the following sequence. It starts with asking about the hospital's process for measuring performance, how this process is updated and what changes occurred due to the usage of these systems. That is followed by questions regarding the preparations for accreditation, in addition to the challenges and the benefits of accreditation. After that, the questions are concerned with the ability to provide feedback to the accreditation organization, how accreditation affected the interviewees, if they believe that accreditation leads to performance improvement and how they describe the performance of the hospital.

Table 5.2 Interview Questions for The Quality Department.

Quality department interview questions	
No.	Question
1	What does the hospital use to measure its performance?
2	How frequent are these measures updated?
3	What are the system changes that occurred due to using this measurement system?
4	How did the hospital prepare for accreditation?
5	What challenges did the department and hospital face?
6	What would you consider the benefits of accreditation?
7	Were you able to give any feedback during or after the accreditation?
8	Personally, how did the accreditation affect you?
9	Overall how would you classify the performance of the hospital?

The interview questions ask about the quality management's view of accreditation and its relation to the improvement of hospitals and how they conceive the performance of the hospital after accreditation. The answers to these questions provide an insider's view of the hospital from the manager of the quality department who is fully aware of accreditation, quality and performance management. Moreover, the answers to these questions are essential to link the top management's and the accreditation organizations' views of the hospital.

Question (1): What does the hospital use to measure its performance?

Question 1 asked the interviewees about the performance measurement system implemented by the hospital. Most hospitals use key performance indicators (KPI), while others adopt structure, clinical, process and outcome indicators to measure performance (as discussed in Chapter 2 Section 2.2).

> *"We use lots of performance indicators, which include structure indicators, outcome indicators, process indicators and those would cover clinical and non-clinical areas." Q.3*

> *"The hospital uses many KPIs and measures, some are administrative and others are clinical, clinical like fall percentage, length of stay and so on." Q.2*

The measures adopted by hospitals are based on national and international accreditation standards (as discussed in Chapter 2 Section 2.2). The standards are the basic requirements that hospitals should follow in order for them to be functional entities in the health sector.

> *"The measures we are using are according to national and international standards, we have key performance indicators that measure major processes in our hospital which include the main departments." Q.4*

Hence, this indicates that accreditation standards whether national or international are the basis for most hospital standards and developed according to the standard's performance measurements. Moreover, the quality departments that were interviewed all adopted the use of performance indicators and key performance indicators.

Codes

The interviewees conveyed the importance of standards in developing the performance measures for the hospital, as the standards ensure that performance measurement covers all the departments of the hospital and the processes of delivery of care.

Question (2): How frequent are these measures updated?

Question 2 asks about the frequency for updating the performance measures and the answers ranged from monthly to yearly updates.

> *"Routinely on a yearly basis they should be updated but from time to time if we discover a new standard we revise our indicators" Q.3*

> *"It is collected on a monthly basis, we look for trends to take decisions regarding the measuring of certain indicators, which is part of our quality annual plan, that is updated on an annual basis" Q.5*

Thus, the updates depend on how the measure is performing. For some hospitals if they perform well the standards are removed and new ones are adopted; for others they continue using the same measures to ensure consistency and ease of use for the staff while adding new measures.

Codes

The interviewees expressed the importance of keeping the measures up to date, which is a means of development that reflects both the themes of improvement and quality, as development of measures is an aspect of quality improvement.

Question (3): What are the system changes that occurred due to using this measurement system?

Question 3 discusses the changes that occurred at the hospital because of using a performance measurement system and the answers revealed that the biggest change provided by performance measurement was standardization for the measures and processes of care.

> *"Before accreditation we did not have standards at all. So, our work was done according to individual efforts but now based on the national and international standards, we are following approved and accredited worldwide standards." Q.4*

> *"If you do not collect regular data and see how things are happening and compare with other institutions you cannot do anything. Indicators are important as they touch the level of quality management, risk management and accreditation, you cannot improve something without measuring it first." Q.3*

Moreover, the following quotation expresses how hospitals that achieve professionalism in the work place from the many accreditations they have passed, feel that they are performing exceptionally and that the reaccreditation is simple as they continue to perform well since adapting to the accreditation culture.

> *"Any hospital that has accreditation, when they come to renew it there is not any change, as the staff keep the same flow of practice." Q.2*

Codes

The interviewees expressed that prior to accreditation individual efforts were the means to measure performance that included both the themes of involvement and improvement. They also talked about the effect of change on an organization. Finally, the theme of standardization was demonstrated through the aspects of measurement, indicator and definition importance.

Question (4): How did the hospital prepare for accreditation?

Question 4 asks about the preparations for accreditation and the answers were related to what was mentioned in Case 1 (training department) in that it requires teamwork, commitment and seeking improvement. The major issue faced while preparing for accreditation was resistance and as the introduction of accreditation and performance measurement causes change in the hospital it is expected.

> *"Whenever you do changes they are all resistant and it is a challenge to overcome and to convince people that quality is part of your life, it is beneficial for work and performances, to help with that we made awareness campaigns that accreditation helps improving quality of care, some accepted but some are still resistant but with time we will improve the situation." Q.4*

> *"Our role as the quality department is to coordinate, to make sure that the cycle never stops, to meet with everybody continuously, make sure that the gaps are closed, that the recommendations are met and so on. The quality department brings everyone together, because people tend to focus on their work and think that accreditation is an extra burden, but it should be part of the work." Q.3*

Codes

Interviewees expressed the importance of leadership, coordination, teamwork and commitment which reflect the theme of involvement. They also expressed the effect of sustaining consistency which is an aspect of the standardization theme.

Moreover, the interviewees articulated how resistance and burden were aspects of importance to consider when implementing or introducing a new aspect of care and they both develop the theme of change. They also expressed the effect of training to any preparation which reflect the theme of education and could also be considered under the theme of standardization. Finally, the importance of improvement as the final goal was mentioned which reflects the theme of improvement.

Question (5): What challenges did the department and hospital face?

Question 5 asked about the challenges that were faced which is related to the previous question as challenges occur due to change. The interviewees mentioned different challenges which include maintaining consistency and perseverance after accreditation, another is how to cope with diversity which is a type of staff resistance.

> *"To maintain the gain. After accreditation, you feel that all the efforts will disappear, because you know the efforts were done just before the accreditation but in order to maintain the gain is the challenge."* Q.4

> *"We have staff from different countries with different understandings for quality and patient safety, putting all these differences together to utilize it towards improvement is one of the challenges. Another is physician resistance and actually we managed it through leadership and proper counselling."* Q.5

Hence, the challenges faced are usually with the staff and to overcome these challenges the hospital should become as one entity to work in unity, additionally, the interviewees also stated that leadership support is necessary to overcome any challenge. Moreover, as performance and quality measures are a continuous process, whenever a measure is completed, another is looked into and searched for to ensure and achieve improvement.

Codes

The importance of consistency and perseverance to becoming the best were expressed by the interviewees and they reflect the theme of standardization. The effect of teamwork,

management commitment and involvement were also expressed, which are both part of the involvement theme.

Additionally, diversity was mentioned and that could be grouped under the theme of change and involvement; however, two more concepts which are resistance and burden could also be grouped under the theme of change while also being included in the theme of improvement.

Question (6): What would you consider the benefits of accreditation?

Question 6 follows on the previous two questions in asking interviewees about what they consider are the benefits of the accreditation process and experience. All the interviewees confirmed that accreditation leads to improvement, while also providing standardization, teamwork, management support and commitment of the whole hospital.

> *"The major benefit it brings people together toward the functions behind the accreditation, which is our patients and improving their safety, and experience. At the same time the organization cumulated and supported this process with a lot of resources including training and education…and I believe that accreditation will lead to improvement if its utilized in the right way" Q.5*

> *"It is a great improvement, now we are facing and challenging our problems in the hospital based on international solutions, for example, after accreditation we learned how to make the focus PDCA cycle and the lean methodology, so now we can recognize and fight against waste on scientific basis." Q.4*

Lean methodology is a set of philosophies adopted to increase the efficiency of services while reducing or eliminating waste (Fujimoto, 1999). Moreover, PDCA was developed in Japan by Deming in 1950 and it stands for Plan, Do, Check and Action which is a circular sequence (Imia, 1886).

Codes

Improvement was mentioned by the interviewees as a major outcome and it reflects the theme of improvement. What was also mentioned were the importance of management, commitment and teamwork as a result of the accreditation culture, which all reflect the theme of involvement. Additionally, the interviewees expressed the importance of utilization and systemization which are aspects of the standardization theme.

Question (7): Were you able to give any feedback during or after the accreditation?

Question 7 was concerned with confirming that accreditation organizations' request feedback after, and sometimes during, the accreditation process. All four interviewees confirmed that these requests were made, which supports the answers of the training department and the feedback provided was on the progress of the hospital and the process of accreditation. Hospital five stated in addition to the feedback they provided staff with their performance during the accreditation process.

> *"We provide them with feedback after the accreditation, we also give feedback for people to improve their performances and show monthly reports for all staff to read and see their performances and achievements. we have departmental structures to utilize the outcome of the feedback for continuous quality improvement." Q.5*

> *"Of course, we have an action plan "SIP" which is the strategic improvement plan, based on the accreditation they give you a plan for the areas where the standard was not fulfilled completely, so we already made the plan and they are asking us for the progress of improvement according to the plan distributed by them." Q.4*

Codes

The interviewees said that quality and evaluation are important aspects to be considered which reflects the improvement theme. The effect of feedback on any process was also mentioned, which reflects the theme of involvement and the theme of quality.

Question (8): Personally, how did the accreditation affect you?

Question 8 is concerned with the effect of accreditation on the interviewees themselves. The answers showed how accreditation provides a sense of unity and pride accompanied with satisfaction as a result of working together to accomplish a common goal, not only for the hospital but for their own professional experience.

> *"For me I would be very satisfied to work in a hospital where accreditation has been done, it is beneficial to the staff and beneficial to the quality department as well, because it gives us experience with accreditation." Q.4*

> *"The feeling of the staff and unity of purpose which comes behind this accreditation process, the proudness of people when they feel that they have been evaluated by external bodies and have been accredited, this is a major benefit for me, when you see that everyone at all levels are talking in the same language and they are proud of improving themselves, this is my spiritual happiness." Q.5*

Codes

The interviewees spoke of how accreditation provided them with a sense of unity and pride, which is expressed in the theme of involvement. Also, job satisfaction was another aspect expressed and it comes under the umbrella of the improvement theme.

Question (9): Overall how would you classify the performance of the hospital?

Finally question 9 asks about the interviewees' perception of the overall performance of the hospital. All four interviewees see that their hospitals are improving with accreditation and believe that performance is improving and becoming a continuous process that requires the unity of the whole hospital to achieve it.

> *"We started from below zero level, we did not have any structure for quality and patient safety, we did not have any strategic directions and now this hospital is considered one of the important medical cities in Saudi Arabia and we are exceeding other hospitals in areas related to*

patient safety programs, implementing advanced technology, we are moving towards excellence." Q.5

"I think the hospital is preforming very well. it's a continuous cycle, we are doing well in terms of patient safety and accreditation, once you have indicator management active with continuous data monitoring and continues updates and performance improvement projects ongoing, once you have the involvement of everybody, the accreditation will become a by-product, it's a natural result of everything that we are doing." Q.3

Overall, these interviews suggest that accreditation is directly linked to quality and performance improvement and it requires the effort of the whole hospital to work on overcoming resistance and standardize services.

Codes

All four interviewees highlighted the importance of continuous improvement which reflects the theme of improvement. They also expressed the effect of involvement which reflects its own theme. Moreover, the interviewees articulated the concept of excellence which demonstrates what hospitals aspire to and that introduced a new theme, which is excellence.

Main themes

The different codes that have emerged from the quality department (Case 2) interviews are grouped under the following main themes to allow for cross-case analysis.

<u>Involvement</u>

The involvement theme was mentioned throughout the interviews. This could be due to the quality department being the link between the hospital and the accreditation organization, or due to the quality department being responsible for developing standards, performance measures and the continuity of performance and quality improvement. This theme includes accreditation providing hospitals with culture of unity and pride, commitment of staff and management, leadership support, coordination between the whole hospital and working as a team. Figure 5.5 illustrates the theme of involvement.
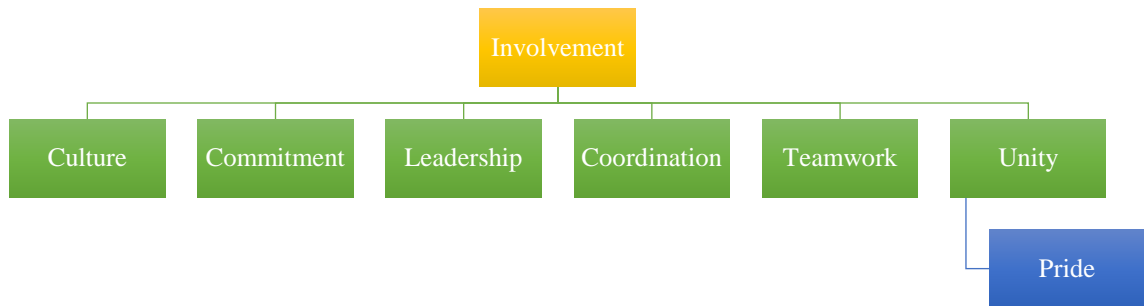
Figure 5.5 Involvement Theme

Change

This new theme emerged as the quality managers expressed the difficulties they face when introducing change to the hospital, whether it was with new measures, or introducing and preparing for accreditation. This theme includes: overcoming resistance, burden of work overload and diversity which requires a large amount of understanding to overcome. Figure 5.6 shows the components of the theme of change.
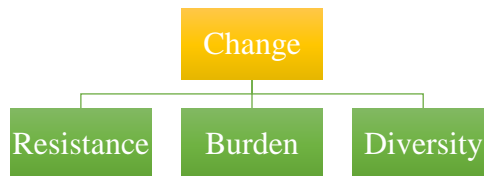
Figure 5.6 Change Theme

Standardization

This theme was mentioned as a means to improve hospitals by providing evidence of improvement through documentation, ensuring utilization of resources and sustaining consistency. It also includes the training of staff and providing experience accompanied with the importance of clarity of definitions, indicators and measurements. Figure 5.7 shows the components of the theme of standardization.
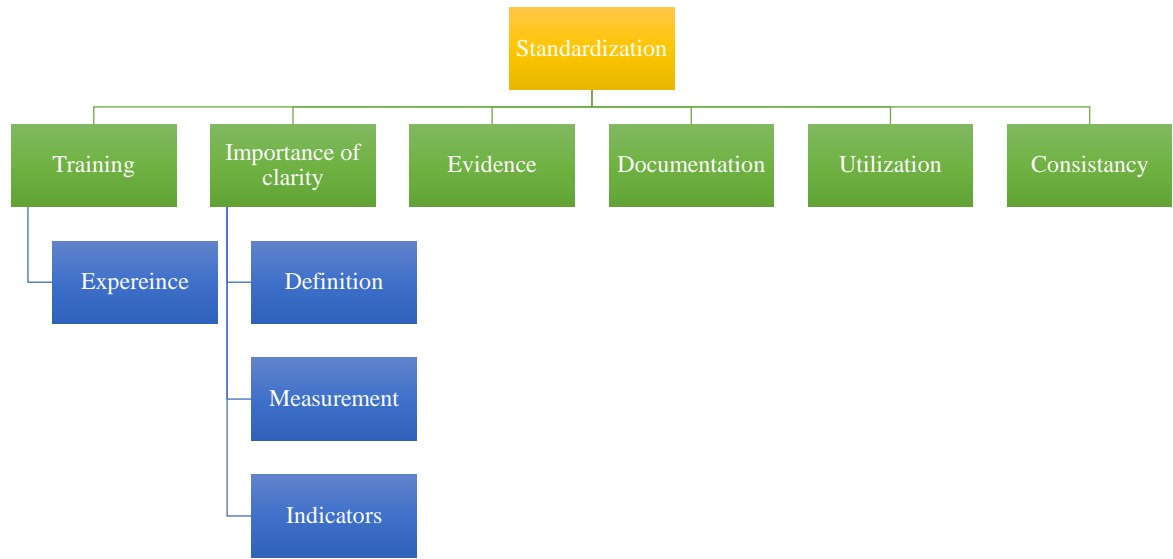
Figure 5.7 Standardization Theme

<u>Excellence</u>

Excellence is another new theme introduced, as it is what all the quality mangers agreed that hospitals aspire to. It is accomplished through accreditation and, as mentioned previously, the quality department are the link that helps to achieve that. Excellence was expressed in many forms which include: becoming a benchmark for other hospitals and maintaining the quality of the hospital to obtain endorsements from accreditation organizations, which will build a reputation for the hospital with the public and the health sector.
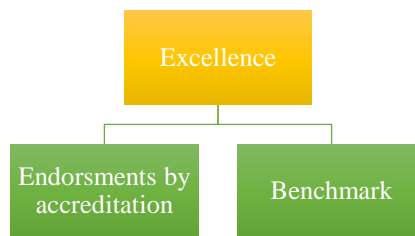
Figure 5.8 Excellence Theme

Quality

Finally, quality is a theme arising in the quality department interviews as it represents the actions and concepts that are used by the quality department to ensure improvement. This theme includes: staying up to date with any new standards, ensuring continuous improvement and providing feedback evaluation to the accreditation organizations and the hospital itself.

Figure 5.9 Quality Theme

5.2.3 Hospital Management

Interviews

The hospital management is key to continuous commitment and support. When the managers are involved, the whole hospital tends to work as a single unit. The following questions describe in detail how hospital managers are involved with accreditation and their relationship with quality and performance management. Five interviews were conducted with hospital management; three were conducted with medical directors of hospitals and two hospital manager interviews were conducted. The letters "MD" will indicate the interviews with medical directors and the letter "M" will indicate the hospital manager interviews, while the numbers will refer to the hospitals, as mentioned in Section 5.2. The questions that were asked are presented in Table 5.3.

Table 5.3 Interview Questions for Hospital Management

Hospital management interview questions	
No.	Question
1	What made the hospital seek accreditation? And how did it prepare for it?
2	What are the challenges faced by the hospital to acquire accreditation?
3	What are the benefits of accreditation?
4	What are the system changes that occurred due to accreditation?
5	Personally, how did the accreditation affect you?
6	How did accreditation affect the finances of the hospital?

The questions for the management were arranged in the following sequence, starting with asking about the reasons for acquiring accreditation and the preparations made for it, followed by questions regarding the challenges, benefits and changes that occurred. Finally, the last two questions asked about the accreditation's effect on the hospital managers and how it influences the finances of the hospital.

These questions provide an insight into the management's perception of accreditation, what are the expectations for the hospital and about the financial aspect of accreditation. The consideration of the financial aspect was due to some opinions that accreditation is expensive and the results are not clear enough for the management. Hence, the last question addressed that issue to understand it from the interviewees' viewpoints.

Question (1): What made the hospital seek accreditation? And how did it prepare for it?

Question 1 asked the managers regarding the reasons for the hospital to seek accreditation and how it prepared for it. The main reasons for acquiring accreditation include government support and improving quality of care.

> *"It's a requirement by the ministry of health to be accredited by the national accreditation committee and in preparation for that, it allows to prepare for the international accreditation organization through fulfilling the requirements and having high quality provided to our patients with regards to patient safety." MD.2*

> *"Accreditation is extremely vital for any health institute seeking to apply high standards of healthcare and to be compared to national and international standards. The hospital is seeking high quality every time, all the time, at the first time, regarding anything that will improve the provision of healthcare for patients." MD.1*

Other reasons included how accreditation provides assurance, structure and improvement to hospitals through meeting the standards. Moreover, accreditation also provides a culture of systemization, teamwork, compliance and quality management; so, to achieve accreditation, the whole hospital should be working as one unit.

"We opted to get accreditations to put a measurable structure, whereby we can gage our accomplishment towards our goals, and our goal has always been achieving improvement in quality and patient safety. So basically, it is a monitoring tool rather than a goal per say. So, the process of accreditation is assuring that you have met the standards and indicators show that progress, be it process indicators or outcome indicators." M.3

"Each accreditation, we establish a steering committee for accreditation and assign each chapter to a champion. So, by setting the structure in place, it became a matter of refining and improving our processes, monitoring the implementation of our policies, to demonstrate improvement. The (PI council) performance improvement council, reviews performance indicators quarterly. I mean a successful quality improvement effort requires transformation in management, so total quality management becomes the way the operation is run." M.3

Furthermore, the preparations for hospitals to acquire accreditation is part of the responsibility of the quality department, as they prepare the hospital through acquiring the standards and developing the hospital's indicators to achieve quality improvement and bring about the accreditation.

"We have a quality department, that got the standards and references from the international accreditation organization and prepared our policies and procedures and started to implement them and we started seeing improvement based on the outcomes of our KPIs" MD. 2

Hence, hospitals seek accreditation to improve their performance, patient safety, quality of care and image, while also it requires preparation by the whole organization, through documentation of policies and procedures and involvement with the accreditation process.

Codes

All five interviewees expressed the importance of government policies and recommendations, management support, involvement and commitment, accompanied by teamwork and coordination, which all reflect the theme of involvement. Moreover, the interviewees also mentioned the effect of systemization, assurance, perseverance and following the concept of total quality management (TQM), which reflect the systemization theme. Furthermore, the concept of quality of care and improvement were articulated which demonstrated the theme of improvement.

Question (2): What are the challenges faced by the hospital to acquire accreditation?

Question 2 asked the interviewees regarding the challenges to acquiring accreditation. The answers included: the importance of overcoming diversity that is overwhelming in the healthcare sector due to many expatriates working in this sector, also ensuring commitment and team work. Another challenge included awareness of the standards, which is a priority to achieve accreditation.

> *"It is multifactorial, one of the challenges is the staff, to convince them to apply the standards and the policies, you have to change their mentality specially that we have multicultural people from different countries and this is the most difficult part. Otherwise they were cooperative to apply this." MD.2*

> *"Challenges were at different levels, we found that a lot of people are not aware of some of the standards, and some people were not aware of certain requirements for provision of good quality in healthcare, considering this was our first experience we needed an external expert support which we acquired…Motivation was probably our strongest point that made this task possible." MD.1*

Additionally, government support for hospitals funded by the government was an additional challenge as, to acquire the financing, hospitals must provide a report that shows how they use their funds and what their needs are. This is a challenge all public hospitals face.

"Our institute is about 30 years old and to ensure the safety and infrastructure of the hospital is up to date and safe for our patients it requires all our resources, because we do not have our own supply, we have to go back to the ministry to get authorization, so I think the biggest challenge is to convince the ministry of our improvement plans." M.4

Finally, providing the proper channels for training and preparation for the accreditation accompanied by standardizing procedures, processes and documentation is another challenge that must be overcome.

"Any organization especially at the beginning, very few people speak the language of quality, which is a challenge and actually the opportunity is to expand that circle, to make it a language of everybody, it requires a lot of education. It takes time and effort and perseverance to get people involved in the endeavour here to achieve a broader circle of engagement. " M.3

The above quotation offers some solutions to overcoming the challenges mentioned through perseverance, motivating the staff and commitment to improvement, not only for the hospital but also for the patients.

Codes

The importance of standardization, training, perseverance and awareness were all mentioned by the interviewees which reflect the theme of systemization. Moreover, the interviewees also talked about the effect of commitment, which is part of the involvement theme. Furthermore, the concepts of diversity and motivation were articulated, which introduced the new theme of motivation.

Question (3): What are the benefits of accreditation?

Question 3 asked the interviewees about what they considered were the benefits of undergoing the accreditation process. Some mentioned that it helped overcoming resistance with awareness of specific areas for improvement.

"The most important thing was the outcome in our service, if we look at the key performance indicator figures throughout the years we can see a big difference. Also, the staff at the beginning thought of accreditation as an extra burden, now they know it makes our lives much easier when we do it all together. So, the outcome was much better, utilization of resources improved a lot, satisfaction was achieved from our employees and our patients." MD.1

Another interviewee stated that it had a good impact on the hospital and indicated the benefits of monitoring performance through performance indicators.

"It impacts the quality of care we provide and the outcome and this is measurable. So, for instance reducing length of stay has a positive financial impact, it has a reputational value as well, for example our reputation with third party payers with insurance companies, we command higher premiums on the price rate, that is because we are monitoring performances." M.3

Finally, another benefit of accreditation is that it provides the management with complete awareness of the organization's status and standardization of services compared to international standards and international organizations.

"It helps in knowing where we stand with our performances and standardization of medical services that are given to our patients, it makes it easier as it is following international standards" M.4

Thus, according to the interviewees, accreditation has many benefits for the hospital overall and many of them are related to team work and overcoming resistance through awareness, involvement and education, as it provides a clearer view of the organization's performance.

Codes

The interviewees expressed the importance of awareness and standardization which reflect the theme of systemization. They also stressed the effect of improvement and monitoring performance which are concepts falling into the theme of improvement. Moreover, the

aspect of resistance and how overcoming it is essential to implement change was talked about and this demonstrates the theme of motivation.

Question (4): What are the system changes that occurred due to accreditation?

Question 4 asked the interviewees regarding the changes that occurred in the hospital after acquiring accreditation. The changes included improvement in daily indicators which created more room for improvement of other tasks, and indicated how improvement is a continuous cycle even after accreditation.

> *"After accreditation morbidity and mortality decreased, the occurrence of incidents were less and now we have more room for improvement on other issues, such as admission time and wasting time" MD.2*

> *"We specify the targets and we are trying to ensure that everybody speaks the same language and for me as a director or head running the hospital it helps to know that everybody knows their duty, they are all following the standards now…We are still improving, we have a lot of projects going on for improvement and we always keep in mind that we have a target that we need to reach" M.4*

Codes

The interviewees talked about the importance of teamwork which reflects the theme of involvement. They also articulated the concept of improvement which has its own theme. Moreover, the interviewees mentioned the importance of improvement and this theme keeps reoccurring highlighting its importance throughout the interviews as stated in the main outcome of this study.

Question (5): Personally, how did the accreditation affect you?

Question 6 asked the interviewees about the effect of accreditation on them personally as this helps with understanding the management's perception of accreditation. The interviewees demonstrated that accreditation had a good effect on them personally, professionally and on the organization as a whole, especially when dealing with everyday tasks.

"It's an additive to have this in my resume or curriculum vitae, if I want to move from here or if I am attracted by other hospitals, to have been working in an accredited hospital is an additive. Also, I feel more safe and secure to work in a quality oriented hospital and department." MD.2

"Prior to my engagement with accreditation I was a practicing physician, going through this process, I got exposed to quality management and performance improvement efforts, I learned how to define indicators, how to use statistical tools, it has been an enriching experience that helped me be a better manager, and allows us to do a better job as physicians and as administrators." M.3

Codes

The importance of improvement, and overcoming challenges which reflect the theme of improvement were mentioned. Moreover, the interviewees also talked about the effect of incentives, which reflects the theme of motivation.

Question (6): How did accreditation affect the finances of the hospital?

The literature on accreditation's effect on finances was discussed in Chapter 2 Section 2.4, however, the following quotations provide the professional opinions of hospital managers on question 6 which asked about the finances of the hospital and how they are affected by the accreditation process. Overall, the five interviewees agreed that accreditation is an investment that is worth pursuing, as it reduces errors and wastage. Moreover, the mention of the word *utilization* was repeated as a means to ensure the proper utilization of human and non-human resources.

Additionally, the outcome of accreditation, which was seen a result of proper financing for the process, includes increase in patient volumes, a positive reputation and becoming attractive to insurance companies. Finally, rewards for being accredited were not limited to the attraction of insurance companies, but also included the ability to ask for higher prices and to provide financial and non-financial incentives to hospital employees who do an exceptional job.

"It is an investment not an expense and I can give you many examples of where its money well spent, you save lives, you reduce errors, and by improving your performance and your outcome you get rewarded as you get to improve your organizations reputation, you have more contracts with insurance companies, so you can demand higher prices, these are all examples of how accreditation is an investment not an expense" M.3

"It is more about our clients, when patients see that a hospital got accredited as they are aware about accreditation, they approach the hospital more and they feel comfortable as it is recommended, which reflects in terms of finances as a revenue for the hospital. We also monitor any issues to provide utilization of resources, this also will reflect positively on our finances, also we provide incentive for healthcare workers who show an exceptional performance in their jobs" MD.2

Codes

The interviewees alluded to the importance of investment, incentives and reputation on a hospital and they all reflect the theme of motivation. It was also mentioned that awareness was a good outcome and process to work with, which reflects the systemization theme. Finally, utilization was mentioned repeatedly to ensure a good outcome and processes, and that is part of the improvement theme.

Main themes

The different codes that have emerged from the management of the hospital (Case 3) interviews are grouped under the following main themes to allow for cross-case analysis of the cases.

Involvement

This theme includes different means of involving the whole organization with the accreditation process through government and management support, teamwork, commitment to the goals, coordination with the whole hospital and compliance with the

improvement efforts to achieve and maintain accreditation, quality and performance improvement. Figure 5.10 shows the involvement theme and its components from the hospital management interviews.
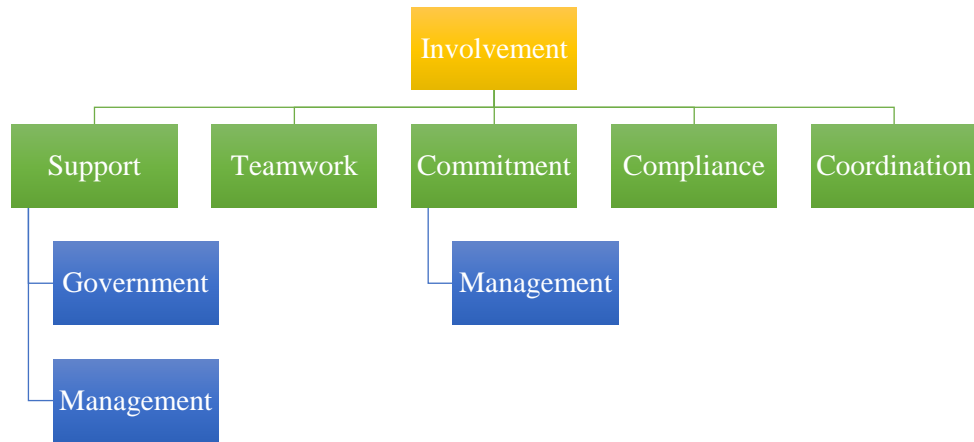
Figure 5.10 Involvement Theme

Systemization

Systemization is concerned with how to systemize the organization's performance through perseverance in improvement, assurance of the services and performance and keeping everyone aware of the standards and changes through training and quality management. Figure 5.11 illustrates the systemization theme incorporated from the hospital management interviews.
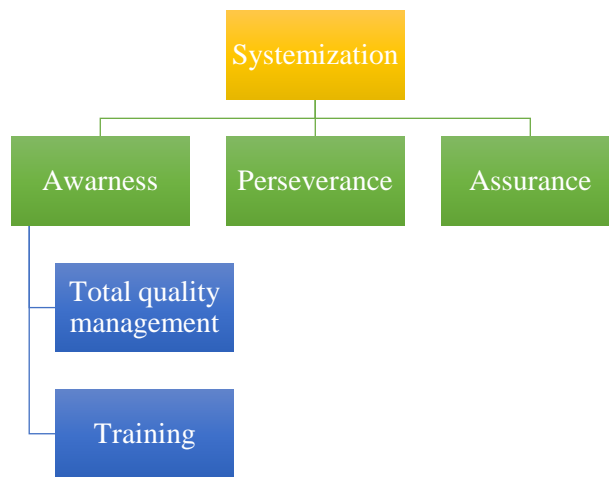
Figure 5.11 Systemization Theme

Motivation

Motivation addresses how to keep staff motivated to pursue improvement and accreditation, which could be done through first, overcoming the challenges of resistance and diversity with incentives whether financial or professional development. Second, through investing in utilization of resources and acquiring the latest equipment and, finally, measuring outcomes to ensure the services are accomplishing the goal of better healthcare for the patients. Figure 5.12 shows the theme of motivation according to the hospital management interviews.
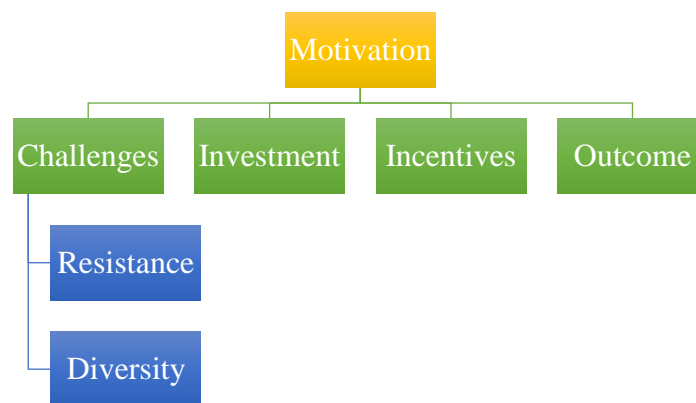
Figure 5.12 Motivation Theme

Improvement

To sustain improvement there should be a structure for the organization to stay in and follow, also standardization of services and good utilization of resources which could be accomplished through collecting feedback on quality of care from staff and patients. Figure 5.13 displays the involvement theme of the hospital management interviews.
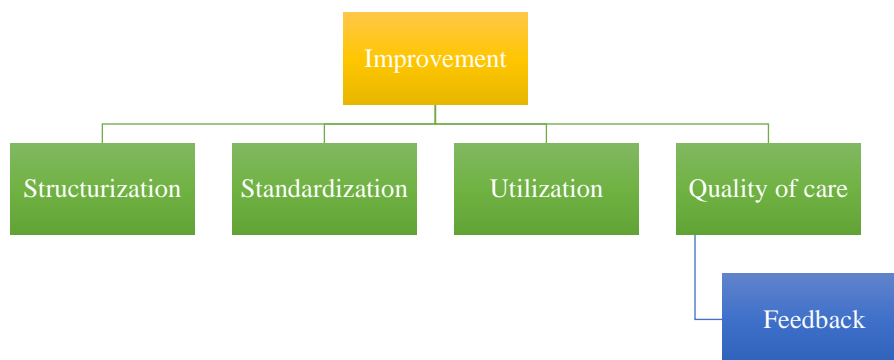
Figure 5.13 Involvement Theme

5.2.4 Accreditation organizations

Interviews

Accreditation is defined as an external assessment provided to hospitals to measure if they meet specified standards in a standards manual set by the accreditation organizations. These standards are available for the healthcare system; it could cover the whole hospital or could be tailored for specific departments for example the CAP (College of American Pathologists) accreditation is for laboratory departments.

International accreditation is a voluntary process to acquire and provide standards that are applied internationally. As for national accreditation, it is usually set by the countries' ministry of health. It could be inspired or similar to international standards but it would be customized to the countries' healthcare systems and structure. Moreover, national accreditation organizations are usually mandatory for hospitals to follow and they could be a good experience for hospitals to prepare for international accreditations or vice versa. The following quotation from the national accreditation organization representative provides a summary regarding national and international accreditation organizations:

> *"I've been a director of quality in a hospital since 2008, so I can see the differences, as I passed an international accreditation and the national, and I can see how the national accreditation makes an actual change in hospitals. International accreditations have more global standards, they look at the processes from a big umbrella but they don't go for the details and this is the benefit or beauty of national standards they are tailored to the countries context" N*

Hence, international and national accreditations vary but an example of their differences could be the stages through which the assessment is conducted, in the context of Saudi Arabia the national accreditation is in the stage of assessing the processes of hospitals after ensuring all the documentations are in place through the initial accreditation rounds. While the international accreditation is in the outcome stage as they are using the tracer methodology, which consists of following a patient's journey from when he enters the hospital till he leaves, to evaluate the process of the hospital and ensure the outcome of care

is a healthy patient (Schmaltz, Williams et al. 2011, Greenfield, Hinchcliffe et al. 2012, Murray 2013).

The current research conducted two interviews with two accreditation organizations, one with a representative from a national accreditation organization and the other one was conducted with a representative from an international accreditation organization. To differentiate between the two interviews the letter "I" indicates the international accreditation organization representative and the letter "N" indicates the national accreditation organization representative. Furthermore, the interviews with the accreditation organizations included many questions, as each accreditation differs from another but the interview questions revolved around the questions listed in Table 5.4.

Table 5.4 Interview Questions for Accreditation Organization

Accreditation organization interview questions	
No.	Question
1	What motivates hospitals to seek accreditation?
2	What are the biggest changes in accreditation?
3	What is the effect of accreditation? And what are the changes it made on hospitals and healthcare overall?
4	Have hospitals improved after accreditation?

The first question asked about the reasons hospitals applied for accreditation, following that the second asked about the changes in accreditation, including its process and standards, while the third question explored the effect accreditation had on hospitals and healthcare systems overall and asked if it constituted any changes. However, the final question asked about the direct effect of accreditation on improvement.

Therefore, the questions asked about the reasons behind accreditation, then the development of accreditation over a period of years, its effect on healthcare and the changes it constructed and ended with its direct effect on improvement. The answers to each question is organized by first presenting the international accreditation organization representatives' answers then the national accreditation organization representatives' answers.

Question (1): What motivates hospitals to seek accreditation?

Question 1 asked about the motivation behind hospitals applying for accreditation. The interview with the international accreditation representative stated that there are many reasons for hospitals to apply for accreditation, but the main highlights are 5 reasons:

1. To provide high quality and safe care: This is discussed in the aspect of how accreditation standards provide the essential requirements for any hospital to be able to provide a safe environment for staff and patients. It also includes, how accreditation is a process to be conducted by all hospital staff, how accreditation should be based on evidence based practices and the importance of flexibility on the time frame and means to encourage the staff to adopt it in their daily routines.

    "Hospitals are keen to provide high quality safe care, and international standards provide them with an excellent framework to implement that and be done all over the organization. Clinicians found that it is very comprehensive, and gives them the flexibility (to not dictate, what or how to get things done to comply with the standards), so it does not impose certain procedures or guidelines but encourages evidence based practices. "I

2. Competition for excellence: This is becoming an integral part of hospitals, as patients become more educated about accreditation they require quality and safety in any hospital they approach and that is symbolised for the patients by the golden seal of accreditation. The accreditation seal is considered a guarantee that the hospital follows international standards, provides quality of care and is safe.

    "...the other motivation, actually is competition in the market, and competition here is for excellence, to be known of providing high quality and safe care. So, they realize that the gold seal, which is the symbol for being accredited by an international organization is known by the people. So, when people see the gold seal they realize this hospital implements quality and safety, which improves their reputation and position in the market." I

3. Medical tourism: Medical tourism here is related to when patients travel and seek medical care while abroad, the only assurance they have for the quality of a hospital is the accreditation seal. The accreditation seal is not just a reassurance for the patients, but it is also sought by travel agencies and insurance companies.

   "...other hospitals their main motivation behind accreditation was medical tourism, now all over the globe people realized that if they are traveling to any country and they have to use the services in that country and even for elective surgeries or procedures the main recommendation that they use are internationally accredited hospitals. And another reason is insurance companies, travel agents and patients trusts them." I

4. Leadership commitment: When the government or the management of hospitals, requires accreditation it becomes a national or organizational requirement. Moreover, it demonstrates how the management gives importance to quality and safety provision to patients.

   "Number four, the leadership commitment to quality and safety, this is representative in some countries in the middle east such as the United Arab Emirates, when the prime minister declared that all hospitals must be internationally accredited and nobody is allowed to practice without accreditation, that was a very big motivation that now the whole country is aware of the importance and requirement of quality and safety." I

Moreover, government support and commitment was also the main reason for the development of the national accreditation organization in Saudi Arabia. In 2014, the Saudi national accreditation became mandatory, to ensure the safety of patients and hospitals, it started with pilots that helped develop the standards which fit the country's health system and culture. The first step towards accreditation was ensuring all the documentation and qualifications were available and now it has shifted to ensuring that the healthcare processes are conducted to a recognised standard. Furthermore, the following quotation includes mentioning how the national accreditation has become part of the licensing requirements.

"In 2014, a decree was mandated for the national accreditation, it became part of the licensure and re-licensure of hospitals. Now if any hospital wants to renew their license they have to register with the national accreditation, or we report them to the Ministry of Health." N

5. Public pressure: With the advancement of social media it is becoming an important insight into the requirements and complaints of the population, accompanied by people's awareness of accreditation and the requirement for high quality and safe healthcare.

   "...also, in some countries the public pressure that happens because of some sentinel events and the request for having high quality is a main motivation to improve quality and safety and seek accreditation. This is clear in countries like Saudi Arabia, where its media is strong and the call for improvement is also strong from the ministry of health and they succeeded to do a big difference in that, these all are factors that contribute for accreditation." I

   The national accreditation organization agreed with the previous quotation and stated:

   "Unannounced visits are sometimes done based on sentinel events happening, if we have any complaints, we validate it then we visit the hospital unannounced. We also respond to the media, if there are any media announcements, we go and visit those hospitals and they will know about the visit only on the day or sometimes they find the surveyors at their door." N

The sentinel events could be, for example, in the case of Saudi due to Hajj (pilgrimage) which encompasses millions of people on a yearly basis, or an epidemic outbreak like bird flu' or MERS (corona) virus that broke out last year during Hajj.

Codes

The interviewees expressed the importance of teamwork, guidance, providing a sense of belonging and government and leadership empowerment, commitment and support which all reflect the theme of involvement. Government commitment for improvement was mentioned and it could be grouped under the improvement and involvement themes. Similarly, the concepts of quality, safety and improvement were demonstrated and they follow the theme of improvement.

The two interviewees also discussed the effect of evidence based standards and standardization which reflect the systemization theme. The concepts of competition, excellence, medical tourism, public and media pressure were articulated and they are all part of the new theme which is excellence. Finally, trust was mentioned which demonstrates the new theme, namely compliance.

Question (2): What are the biggest changes in accreditation?

Question 2 asked the question of the biggest changes in accreditation. The international accreditation representative discussed the following changes: changes in the standards and process of accreditation, emphasis on the importance of management support and involvement, accompanied by the appropriate use of data. Additionally, the changes included focusing on clarity, imposing strict requirements and the importance of systemization.

1. Accreditation Standards changes: With every new edition of the standards manual, new and improved standards are developed to meet the needs of the global population and the advancements in the health sector.

    "There's always improvement, from 2011 we have had 3 editions and we are preparing for the 6th edition now. Every time new standards come, it comes with a lot of improvement and it utilizes the most up to date research and evidence based which is a requirement, because once it's a standard we have to abide with it, it is not optional anymore, so we are very careful and very strict." I

2. Process changes: A new accreditation assessment process called the *tracer* methodology was developed, to include an in-depth insight into the patient's journey through the hospital, accompanied with the continuous education, development and experience of the surveyors which allows research and development for the accreditation process.

> *"The most important improvement developed is the use of tracer methodology, it was a major change. It is a very elaborate, meticulous process, it goes into the details of what is happening, not what should happen, it follows the patient throughout the organization and examines everything, so if something is wrong, it will be discovered. So, I think it's a combination of excellent standards, up to date survey methodology and excellent surveyors as well." I*

The national accreditation also represents a change in the accreditation processes. It shifted towards group interviews and observations, to minimise the timing required to conduct the accreditation process while acquiring the largest amount of data.

> *"Before we used to start the survey, develop a document review, then we review the medical records, personnel file, and then the unit visit, which consists of observation and staff interviews. Now for the new survey process, we moved from one to one interviews to a group and leadership interview. So, we have 13 group interviews which consists of the committees in the hospital." N*

3. Management involvement: The new standard manual includes a chapter on leadership responsibilities, which addresses the major importance of leadership involvement throughout the hospital for quality and safety reasons and throughout the accreditation process.

> *"Another big change happened in the role of leadership, now leaders are responsible, in planning, monitoring, prioritizing and getting involved in all the activities for quality and safety. They are responsible for contracts, medical ethics and human research, also there is a huge*

leadership and responsibilities chapter for leaders and this is a big shift." I

The national accreditation representative also indicated leadership involvement as one of the changes to the accreditation process. For the national accreditation hospital management are requested to be part of the accreditation process and are given a final briefing to discuss the hospital's performance and changes required.

"The survey process moved more to discuss with the hospital leadership to make them involved more. Now the leadership interview is done on the last day because we want to give them the findings, discuss it with them and see how the hospital as an organization will manage to go with the challenges, so it is part of the assessment that is given." N

4. Proper use of data: Another change considers the importance of performance measurement as an integral part of the accreditation process and for accreditation purposes it is preferable for these measures to be institution specific. Moreover, the importance of having quality professionals who would analyse and develop these measures was mentioned. Additionally, to help in developing the institutional standards, the new standard manuals include references to the studies that led to the development of the international standards, which is also an aspect of showing that the standards are evidence based.

"There is heavy use of data in the heart of accreditation and performance improvement lies in the heart of accreditation processes. There is also emphasis on the presence of institutionalised measures and quality professionals who can analyse information correctly and the last version of the standard manual had a lot of references, this is a handful tool for organizations to check those references and know where the standards came from and they are based on science." I

5. Clarity of standards: Clarity is another aspect that keeps changing in order to clarify, provide ease of use and implementation of the standards.

"I see also that standards are getting more and more clearer, the examples added to the fifth addition was very useful to make it clear to the hospitals and organizations that implement them." I

6. Strict requirements: The requirements to achieve accreditation are becoming stricter to ensure quality and safety of patients are met so any low performing hospital will not be able to acquire the seal of accreditation.

   "We raised the bar in the requirements, it's getting more and more tight and this is for the sake of better safety and better practice, so there is always progress and I think we will continue." I

7. Systemization: Systemization is a change which incorporates developing a system for the processes and regulation of the hospital, while also continuously evaluating the system.

   "I see in the future more emphasis on systems and system development and evaluating the effectiveness of those systems, because when you develop a system it keeps producing results, so if it's well designed you get better results, if the system is not good it will continue to produce the same bad results, so I think this is where more emphasis will be." I

On the other hand, the national accreditation representative mentioned changes which incorporate changes in the focus of the accreditation, in the process of accreditation, also the introduction of new requirements and the importance of leadership involvement. The changes in the process of accreditation and leadership involvement were discussed in the international accreditation interview. Therefore, the change in accreditation focus and the addition of new requirements will be discussed below accompanied by relevant quotation.

1. Process orientation: The focus of the accreditation organizations has shifted from input to process, where the assessment is conducted to inspect how the documentation process occurs through observations and interviews with staff, instead of inspecting the medical records first then interviewing the staff.

   "Now 58 to 61% of the activities go to unit visits, so we go and discuss with them the documented evidence that they have and are working on,

we interview the staff and observe the documentation, instead of having a day and a half on visits where we went through the documentation by ourselves and then interviewed the staff individually. Now it is 3 hours, we go to the field, observe the documentation process and have group interviews." N

2. New requirements for accreditation: Each edition of an accreditation handbook provides a new element to the accreditation process. During the interview with the national accreditation representative it was stated that one of the major changes was the focus on qualifications of healthcare workers as a means to ensure hospital staff are qualified to treat patients.

   "The main change is the "ESR" the Essential Safety Requirement, based on the scores we had and on the assessment of the sentinel events that happened over the years, we found that there are some areas that we need to make critical for all hospitals and if they do not pass these areas then the whole hospital is shut down. So, the ESR is really the main change of the standards in the 3rd edition." N

The changes that occur in accreditation organizations follow through with continuous improvement to provide better care for hospitals, in addition to the importance of achieving internal satisfaction from within the organization to achieve excellence in delivery of care.

Codes

The interviewees expressed the importance of developing standards, continuous development, evaluation and improvement which all reflect the theme of improvement. The interviewees also communicated the effect of leadership and management, support and involvement accompanied by teamwork which reflect the involvement theme. Other aspects were mentioned which are systems being process oriented, meticulous and stricter which covers the theme of systemization. Moreover, the interviewees articulated the concept of excellence which demonstrates its own theme and finally, compliance was mentioned and that is another theme of its own.

Question (3): What is the effect of accreditation? And what are the changes it made on hospitals and healthcare overall?

Question 3 asked about the effect of accreditation on hospitals and the healthcare sector. The international accreditation representative stated that there is an evolution in healthcare.

> *"I see a huge evolution in healthcare, the United Arab Emirates went from 3 organizations accredited in 2006 to 135 organizations accredited in the beginning of 2016 and it is expected to double in three years. Saudi Arabia exceeded 90 organizations accredited, among them are 68 hospitals, which is the highest in the number of accredited hospitals and the second in the number of accredited organizations after UAE. This is a huge achievement and it means better outcomes."-I*

However, the national accreditation representative stated that it makes changes on a daily basis on healthcare workers and hospital departments, some of which include:

1. New qualifications: The introduction of new qualifications following accreditation caused a structural change in the Saudi healthcare manpower, one of which was the quality specialist and manager.

   > *"In 2006, we requested respiratory therapy to be mandated as this was not even on the man power plan in the ministry of health, so now this title was added. Also, there was no quality specialist or quality manager as part of the civil services but now it is. Now we have an infection control specialist, infection control practitioner, so the structure of man power became different." N*

2. Increased involvement: The involvement of physicians and staff of the whole hospital became of great importance to sustain accreditation and improve its organizational culture.

   > *"Research has shown that there is a change more than 4% in the behaviour of physicians using the accreditation tool but it depends on their involvement with the accreditation process." N*

3. Improved processes: The processes in the healthcare sector have changed, from the beginning of the hiring process to the details of documentation.

> *"I've been working in hospitals for 27 years and I have seen the changes on a daily basis, it is clearer now, even in for example how the HR is managed, when the HR started, there was no job description, the change started in 2008 when CBAHI started." N*

Thus, accreditation has a good effect on hospitals as mentioned by the previous cases and provides improvement in services and healthcare overall.

Codes

The effect of evolution, improvement, lack of specialists and manpower restructuring were conveyed by the interviews which reflect the theme of improvement. Also, the importance of clarity in standards and processes were stated which reflect the compliance theme. In addition, the impact of leadership, staff and physician involvement was indicated which reflect the theme of involvement. Finally, systemization was mentioned and that is a theme in itself.

Question (4): Have hospitals improved after accreditation?

Question 4 asked about the improvement demonstrated in hospitals after accreditation and according to the international accreditation representative, accreditation's effect on improvement is the main question for hospitals, as managers request justification. They ask if accreditation would improve healthcare or not. Yet, it was stated that, at least for now, it could be surmised that accreditation does improve performance.

> *"If international accreditation covers 60% of UAE hospitals what is the impact on the outcomes? In Saudi Arabia to what extent we succeeded to satisfy the needs in healthcare? Also, the impact on utilization did accreditation improve it? I think with the big number of organizations accredited it is clear that healthcare is improving and people's satisfaction is increasing." I*

On the other hand, the national accreditation representative stated that improvement is a result of accreditation but it could also depend on how hospitals perceive the standards. However, accreditation does create a culture of quality and improvement.

> *"generally, hospitals perform better, but then again it is about how they perceive the standards, as hospitals are a very risky environment, they work with human beings, you will always be at risk. Accreditation does introduce a culture change as it is a very new term to many hospitals in Saudi Arabia, but overall yes definitely there is an improvement, but the level of improvement depends on how the hospital really goes with this."*
> N

Codes

The interviewees stressed the importance of recognising the impact of accreditation, which reflects the theme of excellence, as that is the end result of accreditation. They also spoke of the effect of evolution, education and the inspection of future effects which reflect the improvement theme. Moreover, the concept of improving people and staff satisfaction was mentioned and it is relevant to the theme of compliance.

Main themes

The different codes that have emerged from the accreditation organizations' (Case 4) interviews are grouped under the following main themes to allow for cross-case analysis of the cases:

Involvement

This theme shows the importance of the involvement of the whole hospital with the accreditation process, which provides a sense of belonging to the staff because the leaders (whether management or government) are committed to accreditation and improvement. It also includes working in teams and how the government provides its people with not only commitment but support and empowerment. Figure 5.14 demonstrates the involvement theme in accordance to the accreditation organizations' interviews.
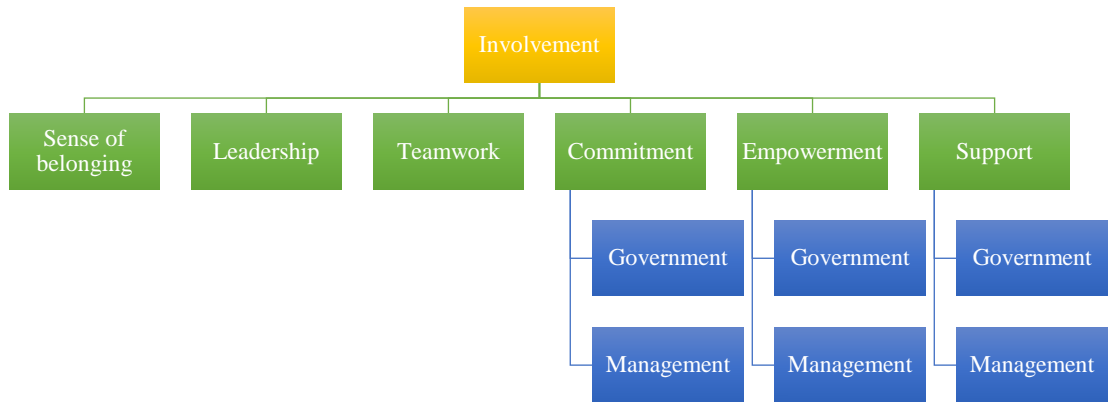
Figure 5.14 Involvement Theme

Improvement

This theme shows how to achieve and sustain improvement through development, which is demonstrated in the evolution of healthcare, pursuing updates and continuous monitoring. It is also shown through providing education to the staff and public through spreading the knowledge and awareness of accreditation and quality to all. Figure 5.15 illustrates the improvement theme according to the interviews of the accreditation organizations.
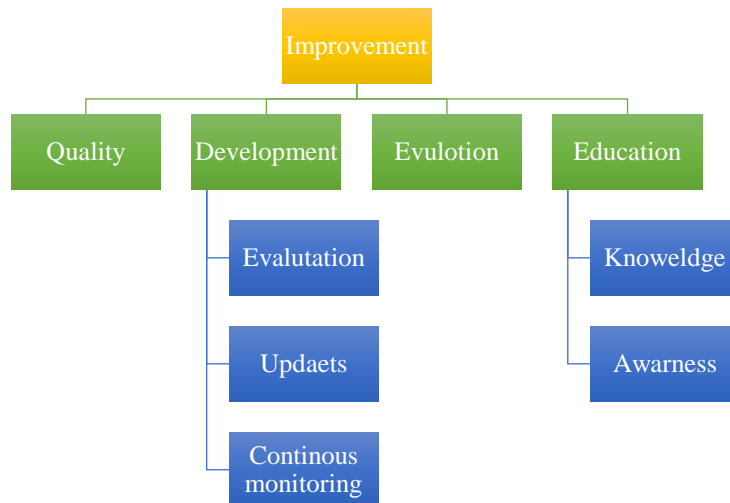
Figure 5.15 Improvement Theme

Excellence

The excellence theme was concerned with the effect of accreditation on the external environment and excellence is a part of that. This theme includes how to make the hospital stand out through competing with other healthcare organizations, the provision of medical

tourism, and making an impact on the public which results from public and media pressures. Figure 5.16 shows the excellence theme according to the accreditation organizations.
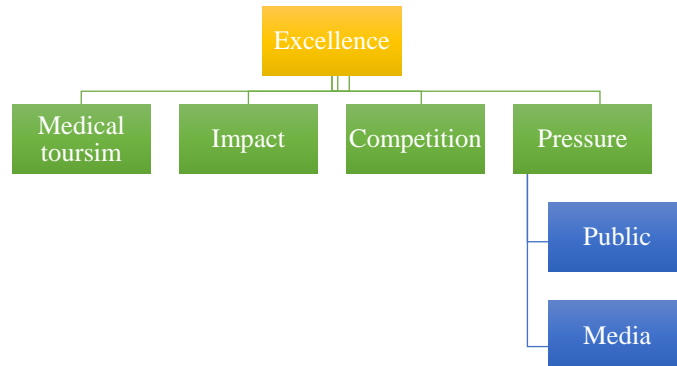
Figure 5.16 Excellence Theme

Systemization

This theme is about providing a systemized approach for healthcare services through using evidence based research, following standards and guidance, using proper documentation, being strict and meticulous in awarding accreditation and becoming more process oriented with the accreditation assessment to achieve a better outcome. Figure 5.17 shows the systemization theme according to the accreditation organizations' interviews.
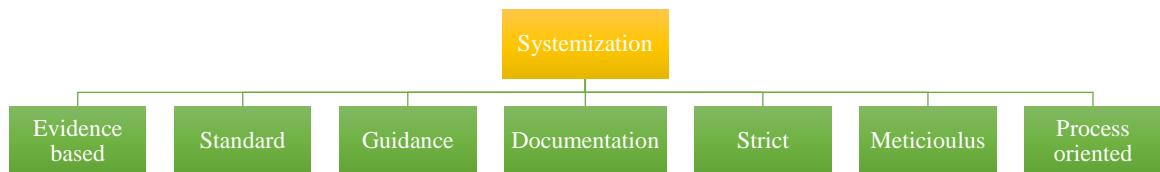
Figure 5.17 Systemization Theme

Compliance

Compliance is a new theme that evolved from the interviews, which demonstrates the importance of the compliance of staff and hospitals to the standards, while also signifying the importance of clarity of the standards. This theme incorporates how to sustain compliance to standards and that is achieved through establishing trust in the organization,

being clear in the standards and ensuring satisfaction of all stakeholders. Figure 5.18 presents the compliance theme based on the accreditation organizations' interviews.
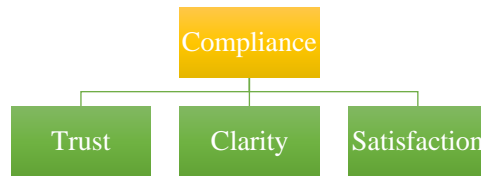
Figure 5.18 Compliance Theme

5.3 Cross-case analysis

The cross-case analysis is conducted through comparing and contrasting the different themes between the cases and providing an understanding and an overall view of the interviews and the themes developed. The repeated themes in all the four cases were:

1. Involvement;
2. Improvement;
3. Standardization.

The first theme is involvement, which refers to the involvement of all stakeholders in the accreditation process. While, the second theme is improvement, which refers to the improvement of quality care and services of the hospital and includes the theme of quality. Moreover, the third theme standardization which refers to standardization of processes, procedures and documents of the hospital and includes the theme of systemization. The involvement and standardization themes will be added to the framework as internal environment factors that affect performance, quality and accreditation, while improvement will be presented as the outcome.

5.3.1 Involvement (of all stakeholders)

As it is important to achieve improvement and assure its persistence, it is also important to sustain the compliance of the whole hospital through working as one unit. That could be accomplished through many means the most important one would be through government and management support, commitment and empowerment as that provides the organization with the drive to comply with the standards.

Another means is culture; when the culture of the hospital is about quality and performance, it requires a lot of team effort, which will be conducted through coordination and result in unity and provide a sense of belonging. Also, when the hospital is awarded the accreditation seal it provides the staff with pride as it demonstrates how their efforts are rewarded and engenders a sense of accomplishment.

5.3.2 Improvement (of quality care and services)

The main reason for hospitals or any organization to seek accreditation is to sustain or develop good quality while improving its services. The different means to achieve that is through providing a structure for the organization through utilizing resources, providing communication lines for feedback and adopting quality. Moreover, when quality is adopted by an organization it requires standardization, evaluation and continuous monitoring of services to ensure they are up to date.

Furthermore, with the evolution of healthcare it is becoming more important to educate the staff, management and the public. The staff could be educated through continuous education, development and awareness of any new outbreaks or innovations, while the management could be enriched when provided with the knowledge of the different areas and investments that would help improve the patients' care. As for the public, their education is conducted through awareness campaigns of their health, lifestyles and any epidemiological outbreaks.

5.3.3 Standardization (of processes, procedures and documentation)

It was mentioned in the previous theme (Section 5.3.2 Improvement) that quality provides standardization to the hospitals' services but how is this standardization and systemization developed and sustained? To build any system or develop any standard it is important to have a good baseline and that is achieved by operating evidence base systems to develop standards; following international guidelines is another confirmatory base for systemization.

Systemizing occurs through documentation of policies and procedure, but these documentations should be clear whether they are definitions, indicators or performance measures. The system should be process oriented to achieve better outcomes; it also should be consistent and efficient. Moreover, the developed standards must be strict and meticulous. They should utilize resources and provide assurance for the public that this organization is accredited based on tough measures, hence the importance of awareness. The awareness of the staff through training, quality management and experience with accreditation makes them want to persevere to sustain the accreditation and become re-accredited.

Furthermore, considering the feedback that is required by the accreditation organization and the re-inspection for re-accreditation, accompanied with some unannounced visits, provides a sense of constant monitoring which requires sustained improvement of performance through standardization.

5.4 Conclusion

This chapter discussed the qualitative analysis section of the current research which is composed of semi-structured interviews with different departments, from different hospitals in three cities in the country of Saudi Arabia. The hospital interviews reflected the internal environment view of accreditation, performance and quality management. Two more interviews were conducted with accreditation organizations to provide the external environment's view of the three main concepts of the current research.

The analysis resulted in creating three more factors for the framework which are namely: involvement, improvement and standardization. The three factors have an impact on the healthcare environment according to the interviewees, which provides the answers to three research question regarding the link between accreditation, performance and quality management, the organizational factors affecting the adopting of accreditation and the implications of accreditation on hospital management and staff. As the results demonstrate how accreditation affects quality of care and ensures performance improvement. The following chapter will discuss the quantitative analysis section of the current research.

Chapter 6 Quantitative Analysis

6.1 Introduction

This chapter presents the findings of the quantitative section of the current research and will cover the statistical approaches to analyse the data while providing an interpretation of the results. Moreover, this section provides a validation of the theoretical framework (presented in Chapter 3, Section3.4, Figure 3.13) and the three main constructs namely: accreditation, quality of care and performance measurement. Additionally, the questionnaire was developed through the adaption of previous questionnaires to enable answering the current research questions (Althonayan, 2013; PROJECTS4MBA, 2012; Bireddy, 2008).

This chapter first discusses the sampling and response rate in Section 6.2. That it is followed with the exploration of the demographics of the sample in Section 6.3, which represents the first part of the questionnaire. Section 6.4 discusses the validation of the questionnaire. Section 6.5 examines the reliability of the data and Section 6.6 illustrates the correlational analysis. Finally, Section 6.7 analyses the answers to the open-ended question in the questionnaire, regarding the staff's perception of accreditation and its effect on hospitals. Finally, this is followed by Section 6.8 which provides the chapter conclusion.

6.2 Sampling

Sampling is the means to collect the data required for scientific research and it is defined as the selection of a group from the whole population (Jupp, 2006). Chapter 4, Section 4.7 discussed the sampling method used for data collection, which was purposeful sampling due to the complexity of the healthcare sector and time constraints.

The present research (both qualitative and quantitative data collection and analysis) covered 5 hospitals in 3 cities in Saudi Arabia. The hospitals ranged from private, public, specialized and teaching hospitals, with the inclusion criteria requiring the hospital having been awarded both an international and national accreditation seals.

Therefore, the questionnaires were distributed to the departments in direct contact with the accreditation process, namely: the nursing, quality, laboratory, training, research and development departments. Moreover, the questionnaires were distributed at the same

hospitals where the interviews were conducted, as the interviews with the management provided ease of access to the staff for the distribution of the questionnaire.

Additionally, at some hospitals, physicians also participated through filling out questionnaires, which composed most of the respondents of the other option presented in the department section. Moreover, Table 6.1 provides an overview of the demographics of the sample.

Table 6.1 Socio-Demographic Summary Table

Demographic Summary Table (*n=487*)		
Gender	**Intervals**	**Percentage**
	Male	26%
	Female	74%
	Total	100%
Age	Less than 20 years old	0.4%
	20 to 29 years old	37%
	30 to 39 years old	39.4%
	40 to 49 years old	16.9%
	More than 50 years old	6.2%
	Total	100%
Department	Nursing	61.8%
	Quality	6.4%
	Laboratory	24.1%
	Research and development	0.4%
	Training	2.6%
	Other	4.6%
	Total	100%
Length worked at the hospital	Less than 5 years	61.3%
	5-10 years	27.9%
	11-15 years	7.9%
	16-20 years	1.3%
	21-25 years	1.1%
	More than 25 years	0.4%
	Total	100%

Furthermore, depending on the size of the hospital, the questionnaires distributed ranged from 100-120 questionnaires. Following the response rate formula presented by Neuman (2014), total response rate= total number of responses / total number in sample - ineligible.

$$\frac{Number\ of\ valid\ responses\quad\ = 487}{Number\ of\ eligable\ questionnaires\ = 540} = 90.19\%$$

Thus, in total 540 questionnaires were distributed and the valid responses were 487 which makes the response rate 90.19%. The equation represents the response rate formula and as the sample was selected by purposeful sampling there were no ineligible questionnaires. The next section will discuss the demographic section of the questionnaire in detail.

6.3 Demographics

This section explores the responses to the first section of the questionnaire concerned with the demographics of the sample. An overview of the first 4 demographic questions are shown in Table 6.1. This section provides the details of the sample, particularly gender, age, department, length of time worked at the hospital and the knowledge of the performance measurement tool adopted by the hospital.
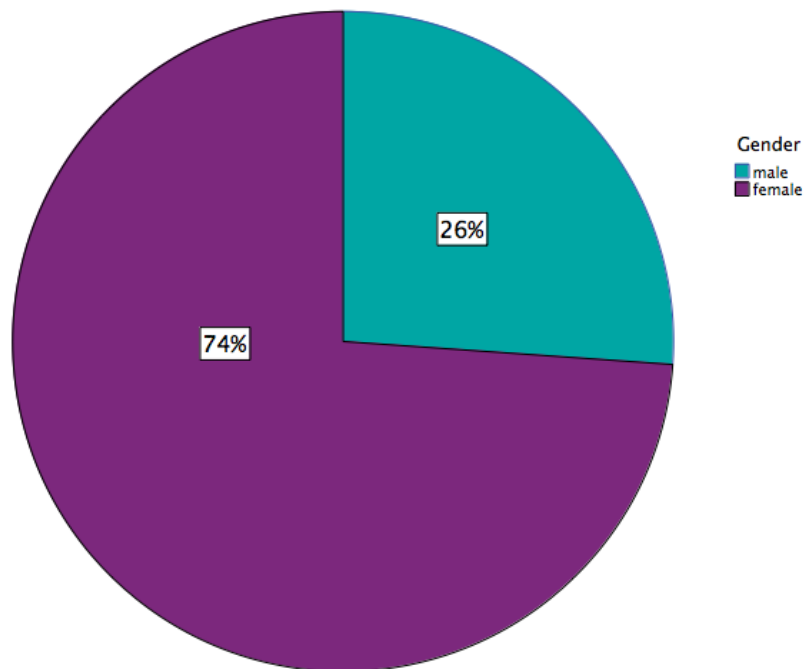
Figure 6.1 Gender distribution

The first question in the questionnaire was about the gender of the respondents, and the answers are shown in Figure 6.1: 26% of the respondents were male, while 74% of the respondents were females. Hence, the sample demonstrates a high proportion of females, which could be due to the fact that the highest number of respondents were from the nursing department (see Figure 6.3) which is usually a female dominant department (Ozdemir, Akansel and Tunk, 2008).

The second question asked about the age of the respondents. The response was divided into intervals of 10 years, starting with 'less than 20' and ending with 'more than 50' years, as shown in Figure 6.2
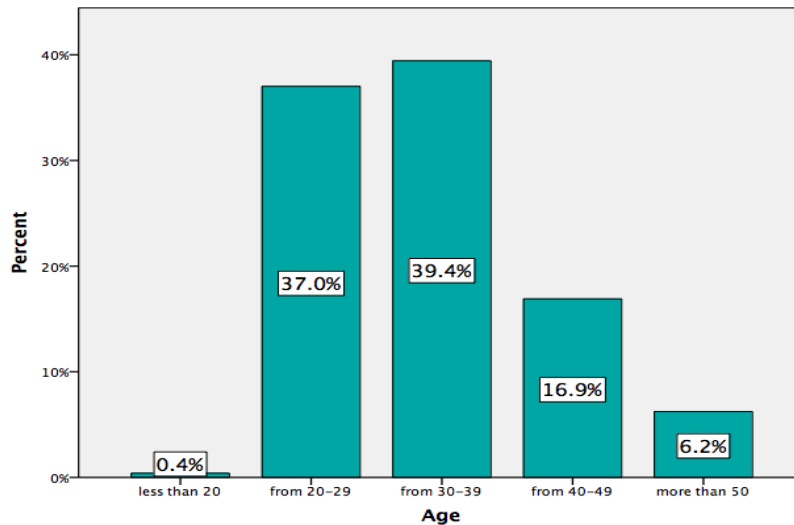
Figure 6.2 Age Distribution

The results show that the highest proportion of responses were those for the range 20 -29 (37%) and 30-39 (39.4%) years of age, followed by the range from 40 till above 50 years of age. The 'less than 20' received the lowest response rate and could be due to most of the population in that age range being still in education.

The third question was about the departments of the respondents, shown in Figure 6.3. The highest number of respondents, with 62%, were obtained from the nursing department, as expected due to the nursing department being the largest department in most hospitals.

Additionally, the laboratory department followed with 24% which was the next department in number of respondents. This result is unsurprising as both departments (nursing and laboratory) have many accreditation standards related to them, hence they deal with the accreditation process the most.
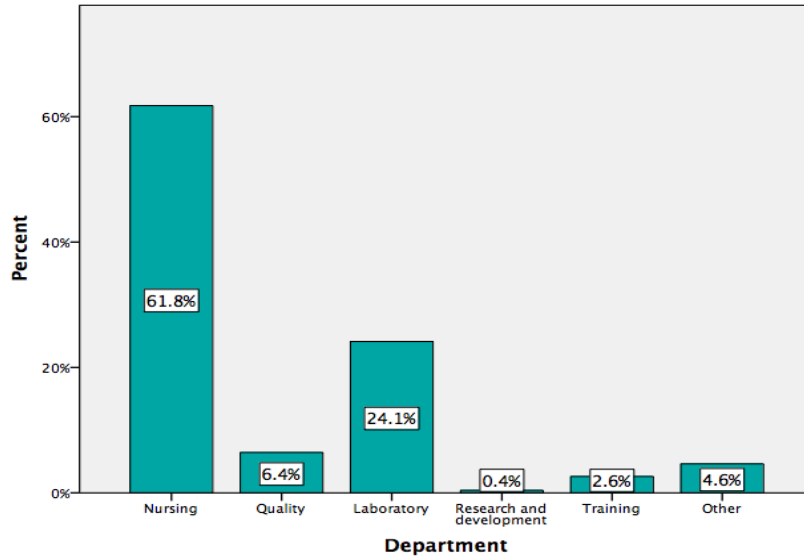
Figure 6.3 Department Distribution

Finally, the quality and training departments followed with the 6.4% and 2.6% respectively. However, the other option was answered by physicians, administration staff and clinical infection unit staff that reported a percentage of 4.6%.
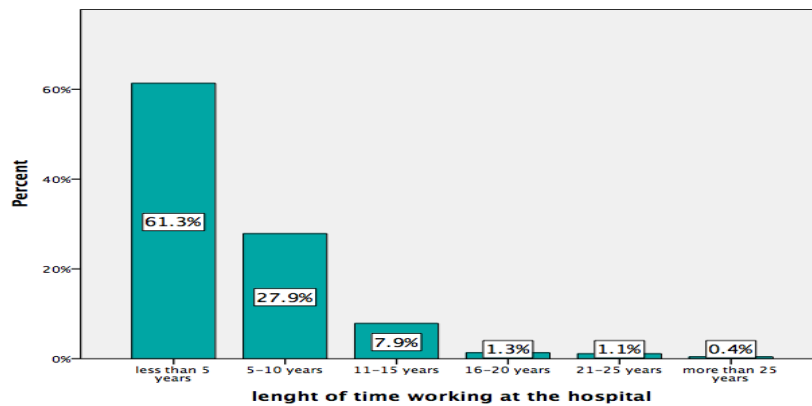
Figure 6.4 Length of Time Working at The Hospital

Additionally, Figure 6.4 demonstrates the last section of the demographics questions, which addressed the length of time the respondent worked at the hospital in intervals of 5 years. Most of the respondents had less than 5 years (61.3%) and 5-10 years (27.9%) service.
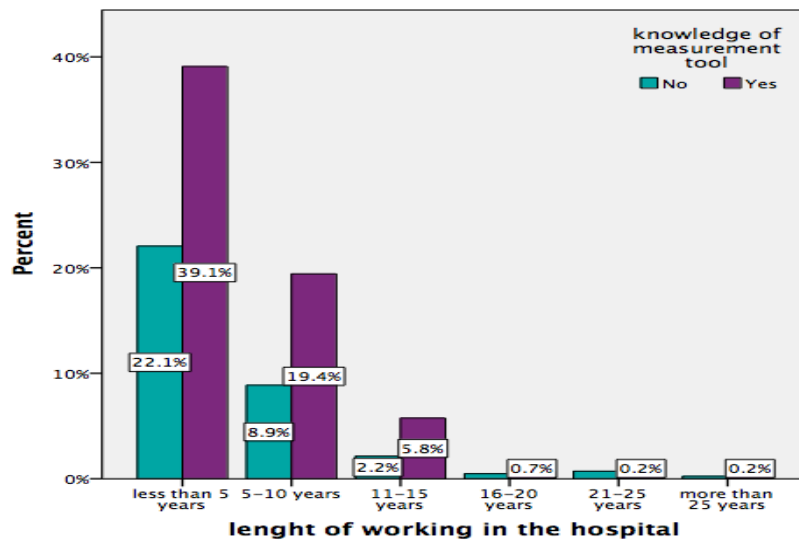
Figure 6.5 Length of Work and Knowledge of Measurement Tool

Figure 6.5 shows the link between the length of time the staff worked at the hospital and their awareness of the performance measurement system. It was demonstrated that employees who had worked there for less than 5 years (39.1%) and the employees who worked there between 5-10 years (19.4%) were more aware of the performance measurement tools than the longer serving employees. That could be due to the development of the training programs after acquiring accreditation, or high resistance from the older staff, as discussed in the qualitative chapter (Chapter 5). Also, it was stated in the interviews how the training of new employees started form the induction period to prepare them for a culture of accreditation; hence the following quotations provide examples from Chapter 5:

> "...Also, the staff at the beginning thought of accreditation as an extra burden..." Medical Director

> "The new staff are a major challenge especially if they do not have previous experience with accreditation, but to overcome that we provide education sessions during the orientation..." Training manager.

6.4 Validation of The Questionnaire

Validity is defined as ensuring that a research instrument measures what it was developed and intended to measure (Smith, 1991 and Babbie, 1989). Many researchers divide validity into content, criterion and construct validity (Sushil and Verma, 2010; Carmines and Zeller, 1987; Kumar, 2012). Content validity is conducted to assess the research instrument items. This is conducted through face validity, which seeks experts' assessment of linking the instrument to the objectives of the research (Kumar, 2012). However, this method is subjective as it depends on the experts' opinion, hence it is usually conducted early in the research to validate the developed instrument (Sushil and Verma, 2010). For this reason, the current research provided the questionnaire to the research supervisors to ensure the link between the questions and the research objectives.

On the other hand, criterion validity is a test conducted to provide future or current estimations of behaviours in relation to a standard or criteria external to the instrument. If the test is adopted for future estimations, it is called predictive validity and if it is to estimate current behaviours, it is called concurrent validity (Kumar, 2012; Carmines and Zeller, 1987). However, this test is not applicable to all forms of research, as there should be a standard to measure the performances against (Carmines and Zeller, 1987). As the current research is not intended to measure performances but explore the perceptions of staff this validity has not been conducted.

Finally, construct validity is a statistical procedure conducted to ensure that the research instrument measures the constructs it was developed to measure (Sushil and Verma, 2010). Construct validity is conducted through factor analysis and it is divided into convergent and discriminant validity, convergent validity ensures that loadings related to a factor are loaded under the factor, while discriminant validity ensures that loadings which are not related to factors do not load under the factors (Sushil and Verma, 2010).

Furthermore, another means to ensure the validity of an instrument is through ensuring sampling adequacy, which measures the appropriateness of the sample to conduct factor analysis (Fields, 2013). Sampling adequacy is conducted through using the Kaiser-Meyer-Olkin (KMO) test which ensures there are relationships in the data and Bartlett's Test of

Sphericity, which tests the strength and significance of the relationships in the data (Hutcheson & Sofroniou, 1999; Fields, 2013).

6.4.1 Sampling Adequacy

To test the adequacy of the sample and justify the application of factor analysis two measures should be conducted: the Kaiser-Meyer-Olkin (KMO) measure of sampling and Bartlett's Test of Sphericity. KMO measures explores the availability of relationships within the data, and the values range from 0 to 1; the closer the value is to 1 the more perfect the sample is, as it indicates that there are relationships in the data which enable factor analysis to provide reliable factors (Hutcheson & Sofroniou, 1999).

Bartlett's Test of Sphericity is used to demonstrate the strength and significance of the relationships; thus, if the significance level is less than .001 then it is highly significant and the sample is ready for factor analysis to demonstrate the relationships between the data (Fields, 2013). Hence, the current research conducted both tests on the sample through the use of SPSS software and the results are shown in Table 6.2.

Table 6.2 Sampling Adequacy Results

Sampling Adequacy Results		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.966
Bartlett's Test of Sphericity	Approx. Chi-Square	14375.319
	Df	630
	Sig.	.000

As presented in Table 6.2, the KMO result was .966 which is close to one and according to Munro (2005), if the KMO is between 0.8 or 0.9, then factor analysis can be pursued. The significance of Bartlett's test was .000 which indicates the that there are relationships between the variables and they are highly significant, indicating that factor analysis is most suitable to be conducted to explore and understand the relationships within the data.

6.4.2 Construct Validity

Following the confirmation of the suitability of factor analysis, it was performed to inspect the number of factors the data will provide. While conducting factor analysis, the scree plot of the analysis demonstrated a breaking point after three factors (Figure 6.6) which demonstrated that the questionnaire has three factors.
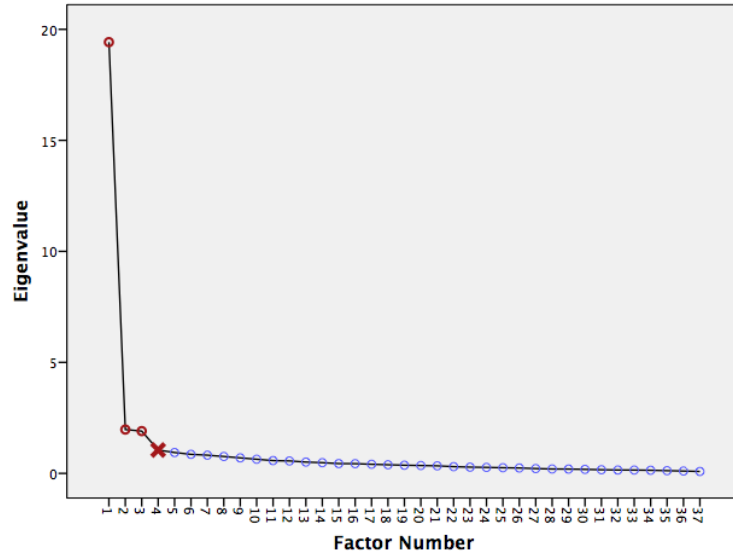
Figure 6.6 Scree Plot

In addition, the factor matrix exhibited in Table 6.3, also shows the number of factors within the data to be three. According to Fields (2013) and Stevens (2002) values (or loading) lower than .4 should not be considered; thus, the blank areas in the table represent a loading lower than .4 (Table 6.3).

Thus, the sample revealed three factors in the data and to ensure construct validity, convergent and discriminant validity were determined through the factor loadings (Table 6.3) (Trochim and Donnelly, 2008).

6.4.2.1 Convergent Validity

Convergent validity is demonstrated when loadings of factors that are related theoretically are confirmed through the reality of the data (Trochim and Donnelly, 2008). Table 6.3 shows the relations between the loadings and the factors, in addition to confirming the relation between the questions and each factor, which demonstrates the link between the main concepts of the current research and the questions in the questionnaire.

Table 6.3 Rotated Factor Matrix[a]

Questions	Factors		
	Quality	**Performance**	**Accreditation**
Q1			.635
Q2			.512
Q3			.571
Q5			.456
Q6			.639
Q7			.722
Q9	.433		
Q10	.664		
Q11	.647		
Q12	.686		
Q13	.685		
Q14	.581	.407	
Q15	.668		
Q16	.645		
Q17	.656		
Q18	.575		
Q19	.715		
Q20	.670		
Q21	.619		
Q22	.742		
Q23	.682		
Q24	.686		
Q25	.440	.545	
Q25a		.582	
Q25b		.612	
Q25c	.401	.691	
Q25d		.733	
Q25e		.688	
Q25f		.677	
Q26a		.681	
Q26b		.705	
Q26c		.789	
Q26d		.742	
Q26e		.705	
Q26f		.746	
Q26g	.408	.752	

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.

6.4.2.2 Discriminant Validity

Discriminant validity is demonstrated when loadings that are not related to a factor theoretically are not loaded under the factor in reality (Trochim and Donnelly, 2008). Table 6.3 shows how the loadings have occurred under their related factor or loaded under other factors and the highest loading demonstrates the reliable loading and its related factor.

Questions 4 and 8 were removed from the matrix as they did not load on any of the factors and that is due to the nature of the questions being about general knowledge regarding the hospital where the questionnaires were distributed.

Table 6.4 presents the three main factors that were identified through the data, which validates the framework concepts as they are the basic concepts that this research intended to verify.

Table 6.4 Means and Standard Deviations of Factors

Means and Standard Deviations of Factors		
	Mean	**Std. Deviation**
Accreditation	1.2431	.31673
Quality	2.3698	.74134
Performance	2.5991	.80036

6.5 Reliability

After validating the questionnaire and ensuring that the data produced is valid, it is essential to determine the reliability of the data. Reliability is defined as the reproducibility of the data and the ability to reproduce the data once repeated. There are two means to measure the reliability of the data to ensure internal or external consistency (Carmines and Zeller, 1987; Kumar, 2012; Litwin and Eaton, 2013). The external consistency depends on measuring the data twice to find the degree of relationship between the different sets of data; however, as the current research has time constraints and is conducted at hospitals in their working hours, it was difficult to distribute the questionnaires twice, thus external consistency was not conducted (Kumar, 2012).

However, to measure the internal consistency of the data, is to ensure that there is correlation between the concepts of the instrument and Cronbach's Alpha is a test conducted to ensure the consistency of the reliability of the data (Trochim and Donnelly,

2008). Moreover, according to Fields (2013), Sushil and Verma (2010) and Kline (1994) reliability scores should be above .70 to indicate the scores are reliable. As shown in Table 6.5, all factors had high reliability scores, which suggests that the data could be replicated.

Table 6.5 Reliability Table

Reliability		
Factors	Cronbach's (α)	No. of Items
Accreditation	.83	6
Performance	.97	14
Quality	.95	16

6.6 Correlation

To ensure that all factors are correlated and adequate to the framework of the present research a correlation analysis was conducted. Correlation analysis shows the strength and direction of relationships between two variables (Field, 2013). The correlation coefficient (r) is used to demonstrate the strength and direction of dependence of one variable to another. When r=1 the relationship is positively related, meaning they both increase, or decrease, in the same direction, while when r=-1 the relationship is negative, which means when one increases the other decreases. On the other hand, if r=0 there is no correlation and the two variables are not related (Campbell and Swinscow,1997). Hence, the correlation values of the current research are presented in Table 6.6.

Table 6.6 Correlation Table

Correlation			
	Accreditation	**Quality**	**Performance**
Accreditation	1	.65	.63
Quality	.65	1	.83
Performance	.63	.83	1

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

Table 6.6 provides the correlational results while also providing the probability significance which was indicated as ($p<.01$). The p-value is the probability of finding the correlational results if there was no relationship between the variables, hence, the (p) value demonstrates the statistical significance of the data, if it is below 0.05, it is statistically significant and if higher the results are not considered significant. Thus, as the current research's p-value is at .01 then it demonstrates that the correlations between the factors are highly significant.

Furthermore, the values of the correlation coefficient (r_s) demonstrate the strength of the relationship. If it is between 1 and 0.5, it is a strong positive relationship and if it is between -0.5 and -1, then it is a strong negative relationship. Thus, as demonstrated in Table 6.6, there is a relationship between the factors of the current research and the correlation results were as follows:

- r_s = .65 for the relation between accreditation and quality;
- r_s = .63 for the relation between accreditation and performance;
- r_s = .83 for the relation between quality and performance.

Thus, the results indicate that all factors are strongly positively related, which supports the framework and the aims and objectives of the current research, which addresses the alignment of accreditation, quality and performance measurement.

6.7 Staff Perception on Accreditation

The final question was concerned with the staff's perception of the hospital following accreditation and if they expect improvements in the future. The answers ranged from considering their hospital the best, or will be the best, to seeing no change or that improvement is needed for the future of the hospital. All the answers were grouped and coded and are presented in the Figure 6.7.

Figure 6.7 presents the relative incidence of the different perceptions. Of the 201 respondents to this question, 5% perceive the hospital to be already performing well by stating "the hospital is good already" and "it is the best hospital". On the other hand, 42% of the respondents believed that there is a need for improvement in services, technology, structure, patient care, performances, quality systems and some also stated that improvements will occur through accreditation, reaccreditation and maintaining quality. However, 11% of the respondents assumed no improvement will occur.

Moreover, another answer included staffing development with 16%, which includes involvement, improvement and satisfaction of staff in addition to hiring more staff and attracting more qualified staff. Another was technological advancement with 4%, where staff recommended paperless records and the adoption of new and improved technology.

Staff Perception on Accreditation's Effect

Legend:
- No Improvement
- Staffing Issues
- Technological Advancements
- Management Issues
- Financial Management
- Improvement
- Cultural Improvement
- Excellence
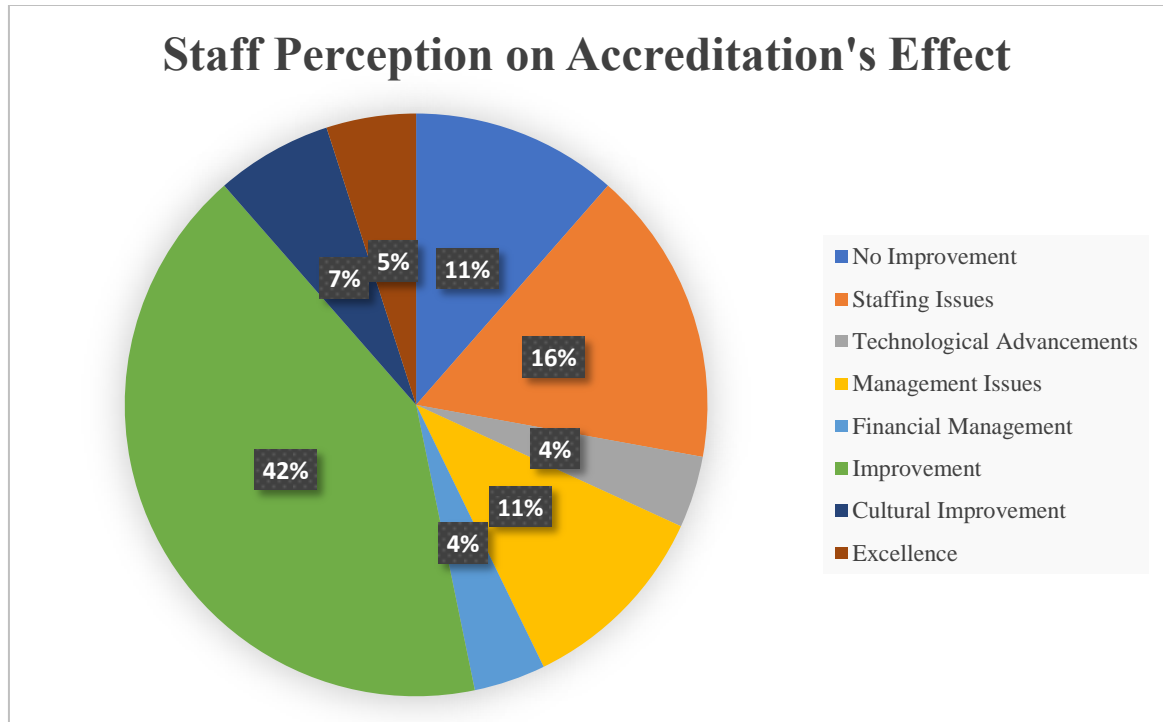
Figure 6.7 Staff Perception on Accreditations Effect on Hospital.

Also, financial incentives appeared with 4%, where staff were requesting increase in salaries and linking salaries to performance. In addition, there was management issues with 11% which included requests for rewards, consistency, proper communication, linking performance to qualifications, more clarity, utilization and motivations. Finally, 7% of respondents mentioned cultural improvement, where requests for acknowledgements, fairness, appreciation, equality and requests for improved cultures and the adoption of quality culture were expressed. All these were issues that were raised by the staff, which could derail improvement of hospitals and the adoption of accreditation.

6.8 Conclusion

The quantitative analysis, in this chapter, was conducted to explore the data from the staff's perspective regarding accreditation, quality and performance, which is part of the internal environment, while also validating the theoretical framework presented in Figure 3.13. A summary of the demographics section was provided in Table 6.1, followed by the validity methods conducted on the sample through KMO and Bartlett's test and on the data through factor analysis, to ensure the 3 main areas of research were embedded in the questionnaire. The validation resulted positively. Moreover, after the different validity tests were

conducted to confirm the factors and their constructs, a reliability test was conducted to prove the reliability of each factor and that resulted positively with all factors showing high reliability scores.

Furthermore, a correlation analysis was conducted to demonstrate the relationship between the factors and the results were positive strong relations between the three main factors. In conclusion, the questionnaire results provided the three main areas of research and explored their relationships, which are demonstrated in the framework, hence this chapter validated the current research's framework.

Finally, the analysis also provided the staff's perception on accreditation and its ability to improve the hospital, while also mentioning the different issues to be considered by management to overcome any relapse from the accreditation process and achievement.

The next chapter will align the qualitative and quantitative analysis with the literature and discuss the framework after the additions from the qualitative chapter and the validation from the quantitative chapter.

Chapter 7 Discussion

7.1 Introduction

This chapter combines the current research findings from the analysis chapters with the literature. Moreover, the chapter also fills the gaps presented in Chapter 2, Section 2.6 and addresses the validation of the theoretical framework (Figure 3.12) which demonstrates the alignment of accreditation, quality and performance management to develop the new conceptual framework of this research. This chapter is based on the review, in Chapter 2, of the literature of the practice of accreditation, quality and performance management in healthcare, in addition to the findings, presented in Chapters 5 and 6.

The chapter is composed of the following sections: Section 7.2 provides an overview of the findings, while Section 7.3 demonstrates the new additions to the theoretical framework (in Chapter 3) to develop the new conceptual framework and explain the addition of new components. Section 7.4 demonstrates the implications of the new framework and, finally, Section 7.5 provides the chapter conclusion.

7.2 Findings Overview

The current research is mixed methods research, relying on the analysis of both qualitative and quantitative data. This section provides an overview of the findings. Chapter 5 provides analysis of the qualitative data which was collected by semi-structured interviews in multiple case studies, and analysed by cross-case analysis. The case studies provided an insight into the management perception on accreditation, the adoption of performance management and quality of care, to provide the section on the management view of the internal environment's effect on accreditation, quality and performance management. The cross-case analysis of the interviews resulted in three main themes: involvement, standardization and improvement, while also demonstrating the importance of feedback.

On the other hand, the quantitative analysis in Chapter 6 demonstrates the different aspects of healthcare, which discussed the usual length of time staff work at hospitals, the female domination of the nursing department and the departments that require a large commitment for the accreditation process. Additionally, the quantitative chapter also provides a

validation of the theoretical framework (Figure 3.12) through confirming the relationship of the three main themes which addresses the importance of the alignment of accreditation, quality and performance management, and how they are strongly positively correlated.

Furthermore, the final section of Chapter 6 provides the staff's perception of the hospital following accreditation, which provides the staff views of the internal environment's effect on accreditation, performance management and quality of care. The views of staff ranged from seeing no improvement, to thinking they already have a well performing hospital; however, the majority of respondents believe that improvement is a necessity for the future. Additionally, the importance of feedback was also demonstrated in the staff's answers.

7.3 Conceptual Framework

Following the analysis chapters (Chapters 5 and 6) which validated the theoretical framework (discussed in Chapter 3), this section discusses the new additions to develop the conceptual framework. Moreover, this section addresses the three themes resulting from the analysis of the interview data, the outcome of the questionnaire survey and corroborate them with the literature reviewed in Chapter 2. Hence, Section 7.3.1 discusses the validation of the theoretical framework to form the conceptual framework, while Sections 7.3.2, 7.3.3 and 7.3.4 discuss the new components added to the framework.

7.3.1 Theoretical vs. Conceptual Framework

During the pilot study four main themes were created namely: accreditation, quality, performance and improvement. These themes were developed following the interviews and the questionnaire survey of the pilot study. However, during the data collection and analysis for the current research, the cross-case analysis provided three new themes that included improvement, while the questionnaire analysis confirmed accreditation, quality and performance, which verifies the theoretical framework and confirms the link between the three main aspects of the current research. Thus, after validation of the main components of their alignment, Figure 7.1 demonstrates the conceptual framework which is composed of the theoretical framework (Figure 3.12) and the additions of the new components which resulted from the analysis.
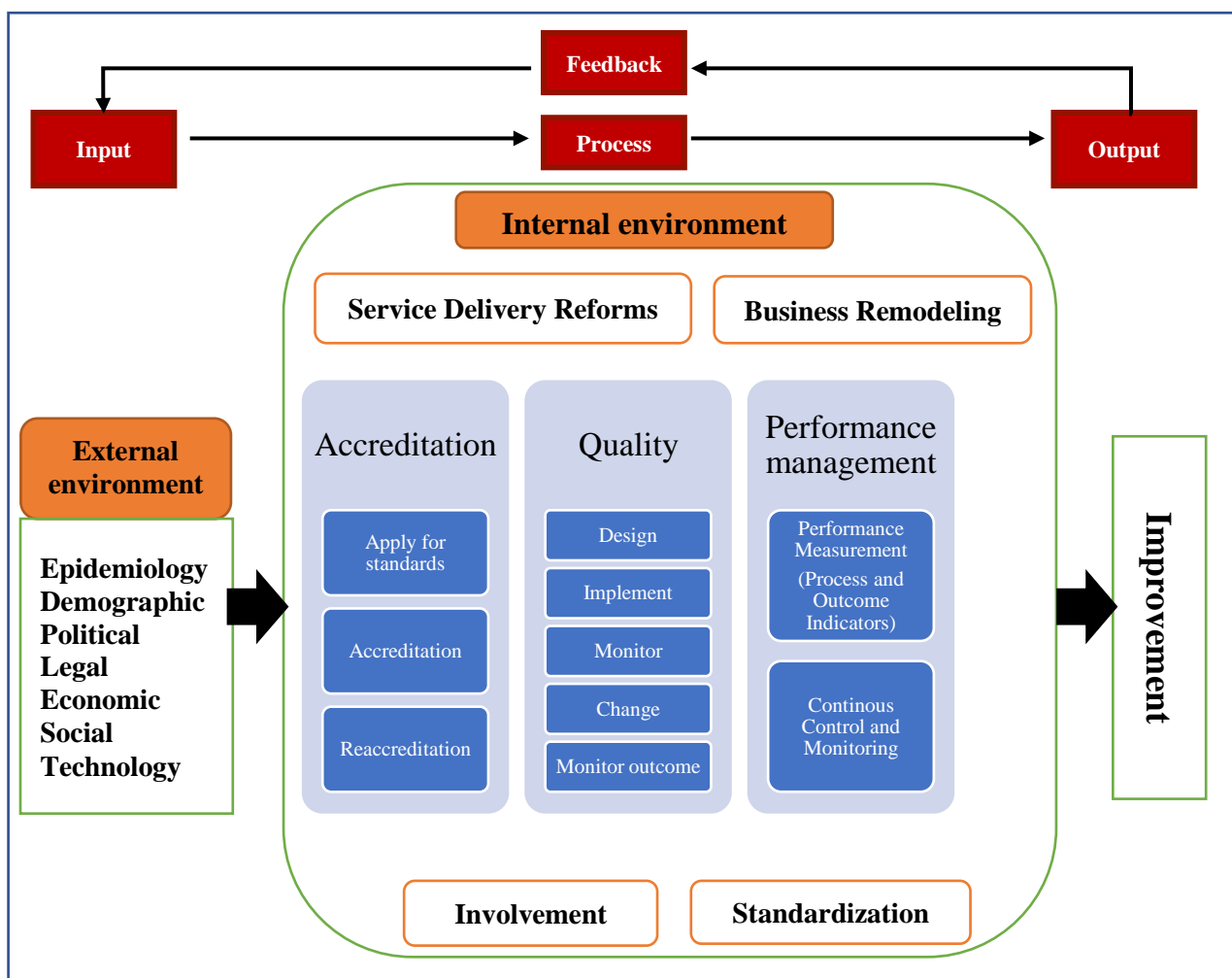
Figure 7.1 Conceptual Framework

The conceptual framework presented in Figure 7.1, follows Donabedian's Model (Figure 3.12) which is composed of input, process and output, while also adopting Juran's Quality Trilogy and the Open Systems Theory (Figure 3.1), which stresses the importance of the environment. Moreover, the empirical validation of the framework demonstrates the link between accreditation, quality and performance management which are the centre of the framework.

Additionally, Figure 7.1 incorporates the 7 external environmental factors that affect the healthcare sector which were discussed in the theoretical framework chapter (Chapter 3 Section 3.4). Also, it includes the factors affecting the internal environment of the healthcare sector which is discussed in Section 3.4 and the new additions which are involvement and standardization are discussed in the following sections.

Moreover, it displays the desired outcome of the research which is the improvement of hospital performance as discussed in the analysis chapters (Chapter 5 Section 5.3 and Chapter 6 Section 6.8). Furthermore, the importance of feedback was stated in both the multiple case studies and the questionnaire which resulted in modifications to Donabedian's model.

The difference between the theoretical and conceptual framework is the addition of three new factors. The first two are involvement and standardization which were incorporated as part of the internal environment and, thirdly, improvement which was expressed as a desired outcome for hospitals. The findings prove that these themes are integral to the framework and were added to signify the importance of the relationships and processes within the hospital and its staff. Furthermore, the importance of culture and clarity of definitions, rules and regulations in addition to feedback, are revealed through the data and are supported by the literature.

The next sections discuss the new components added to the theoretical framework (Figure 3.12) to develop the conceptual framework (Figure 7.1). The new components resulted from the qualitative and quantitative analysis. The first theme to be discussed is involvement, that is followed by standardization and finally by the theme of improvement.

7.3.2 Involvement

Involvement of the various stakeholders in healthcare with the process of accreditation and the adoption of performance measurement and quality of care, was articulated by the interviewees and questionnaire respondents as an important factor in achieving improvement. Moreover, it was also stated that involvement resulted in creating a culture of accreditation and quality at hospitals, provided unity among the healthcare workers and satisfaction for both the healthcare workers and the patients.

Hence, involvement is discussed in two subsections:

- Subsection 7.3.2.1 discusses management commitment and involvement. The involvement of staff, management and representatives of the stakeholders of any institution is key for its success in sustaining improvement. This section includes:

engagement of staff, public and management commitment, it also discusses staff resistance, staff satisfaction and leadership.

- Subsection 7.3.2.2 discusses culture which is one of the emergent and unpredicted results of the present research.

7.3.2.1 Management commitment and involvement

<u>Engagement and Commitment</u>

Engaging organizational staff requires an effective performance evaluation system, accompanied by an effective human resource management and motivational strategies, effective organization and quality improvement (Trebble, et al. 2013). Moreover, the current research also found that engagement of the staff of the whole organization is required to achieve accreditation and improvement, and that it can be acquired through training, awareness campaigns and standardizing procedures.

Additionally, the involvement of management and front-line staff in the development of indicators increases the likelihood of successful adoption (Weir, et al., 2009). Similarly, the present research findings demonstrate how the interviewees considered involvement an important aspect of achieving staff satisfaction and bringing about ease of adoption of the accreditation culture.

Moreover, the improvement of teams' learning experiences also affects how improvements are implemented in hospitals and, according to Brandrud et al. (2011), it is essential to involve all staff through all the processes of improvement, while also providing continuous evaluation, monitoring and measurement to ensure progress. Furthermore, training and education should be provided and supplemented along with the knowledge of how to improve performance.

In addition, West and Lyubovnikova (2012), West (2012) and Braithwaite et al. (2006) discussed the importance of teamwork for quality of care over the years, also they explored how developing an understanding of the different professionals in the hospital (or organization) is related to performance measurement whether positively or negatively, likewise, they studied the effect of performance improvement.

Similarly, the findings of the current research, also highlight the importance of teamwork throughout the interviews, especially when asked regarding the preparation for accreditation, means to overcome challenges, benefits of accreditation and identified as one of the observed changes in hospitals after accreditation. Moreover, teamwork was considered an answer to most of the interview questions hence it was grouped under the involvement theme and was also mentioned in the questionnaire, as it is an integral factor in overcoming resistance. The following quotation demonstrates the effect of engagement of staff on achieving a culture of quality:

> *"Any organization especially at the beginning, very few people speak the language of quality, which is a challenge and actually the opportunity is to expand that circle, to make it a language of everybody, it requires a lot of education. It takes time and effort and perseverance to get people involved in the endeavour here to achieve a broader circle of engagement. "Hospital Manager.*

> *"I think the hospital is preforming very well. it's a continuous cycle, we are doing well in terms of patient safety and accreditation, once you have indicator management active with continuous data monitoring and continuous updates and performance improvement projects ongoing, once you have the involvement of everybody, the accreditation will become a by-product, it's a natural result of everything that we are doing." Quality Manager.*

Moreover, according to McKee et al. (2010) hospitals with high engagement of staff in organizational decisions and delegation in leadership lead to high performance. Additionally, Drath et al. (2008) recommends moving leadership from leaders and followers to involve all staff in achieving organizational goals through overcoming staff resistance and obtaining staff satisfaction.

Staff Resistance and Satisfaction

Staff involvement is one of the main themes resulting from the interviews. To motivate staff to incorporate accreditation as part of their daily tasks hospitals should overcome staff

resistance and take into consideration staff satisfaction. Eight of the interviewees mentioned staff resistance as a challenge to gaining accreditation and a benefit accreditation helps to overcome. It was part of the motivation and change themes, which are grouped under involvement and improvement as main themes. The following quotation provides an example of an answer to a question about the challenges of accreditation which mentioned the resistance of physicians:

> *"We have staff from different countries with different understandings for quality and patient safety, putting all these differences together to utilize it towards improvement is one of the challenges. Another is physician resistance and actually we managed it through leadership and proper counselling." Q.5*

Different solutions were suggested to overcome resistance and achieve staff satisfaction that should be considered at all levels to demonstrate the benefits of accreditation. The most effort to involve staff should focus on the clinical level as physicians are the most resistant, either because they feel that they are doing a good job already or because they do not see the benefit of accreditation (Almasabi and Thomas 2016).

An approach to overcoming resistance is to include clinical outcomes among the metrics, as clinical outcomes provide not only motivation for physicians but also an evidence based aspect to the standards. Having them as part of the standards is beneficial as they can provide objective measures of care and incorporate outcome measures. That is demonstrated through the Australian accreditation where they assigned a program called Australian Council on Healthcare Standards (ACHS) to incorporate clinical indicators in the accreditation process and standards to overcome resistance (Scrivens 1998, Hinchcliff, Greenfield et al. 2012, Guérin, Le Pogam et al. 2013).

Another approach to ensure the participation of physicians is to involve them in the accreditation process. The JCI developed the Physician Engagement Advisory Group to encourage physician involvement in quality and patient safety indicator development (JCI 2011, Accreditation Canada 2012). Moreover, the Saudi context shows similarity to these studies in which the council that decides on the standards is developed from the managers

of the top hospitals and the ministry of health. It incorporates different specialties on the board to be able to develop standards that would cover the different aspects of care.

The other aspect to consider is staff satisfaction and according to a study by Dawson, et al. (2011) a satisfied, positive and engaged staff results in low levels of errors and high levels of patient satisfaction. In addition, patient satisfaction increases when there are clear goals and it is directly related to staff being satisfied with the leaders of the hospital (West, et al. 2011). Furthermore, positive satisfied staff and staff development leads to performance improvement and decreased patient mortalities, also, the involvement of staff in setting goals with managers' leads to increased staff satisfaction and engagement (West, et al. 2011).

The importance of satisfaction was identified in 11 interviews with the management, quality management and accreditation organization interviews, when asked about working in an accredited organization, the benefits of accreditation and the effect of accreditation on healthcare. Moreover, satisfaction was accompanied with a feeling of unity during the accreditation process and as a stimulus for improvement. The following quotation provides an example of an answer to a question regarding the benefits of accreditation, which supports the above-mentioned literature regarding the importance of satisfaction:

> *"… the staff at the beginning thought of accreditation as an extra burden, now they know it makes our lives much easier when we do it all together. So, the outcome was much better, utilization of resources improved a lot, satisfaction was achieved from our employees and our patients." Medical Director*

Furthermore, satisfaction was also an answer to the biggest changes in the healthcare sector in the Gulf region, as when it is experienced by patients, staff and management it results in improvement. Additionally, satisfaction was grouped under the involvement theme as a factor which leads to compliance. To achieve satisfaction and overcome resistance, leadership involvement is required.

Leadership

Leadership is defined as the assurance of alignment, involvement and commitment of the organization as a whole (Drath, McCauley et al. 2008). Moreover, leadership is considered to be one of the many factors that affects quality improvement, which also include: physician involvement, motivation and resources availability (Kaplan, Brady et al. 2010).

Furthermore, West et al. (2015), discussed leadership in five aspects, which outline what leadership in healthcare should focus on. The five aspects include: the provision of continuous quality improvement, patient safety and satisfaction, also, to ensure the involvement of staff, in addition to the provision of clarity, open feedback and transparency with negative issues. Furthermore, the adoption of the concept of learning from mistakes and considering them as opportunities is significant. Lastly, they should provide and endorse continuous development and training while also providing the means of motivation.

Moreover, leadership affects the entity it works in and the teamwork in the organization; however, it was considered to produce low performance in the healthcare sector according to Øvretveit et al. (2002) and Plsek and Wilson (2001). Nevertheless, recent research on healthcare leadership and teamwork reveals that high performing hospitals are a result of management involvement and commitment (Chambers et al, 2011, Hamilton et al, 2008). Likewise, West et al. (2006) conducted a study which supports the notion of leadership and management as being essential to improve performance outcome. Also, studies have demonstrated direct links between leadership, patients and staff satisfaction, better quality of care and involvement of staff (West, et al. 2015).

Additionally, Shipton et al. (2008) conducted two studies to investigate the effect of leadership and culture of quality on hospital performance and both studies indicated that there is a strongly positive relationship between management and performance improvement, in addition to management and satisfaction of patients and staff.

The force of leadership's effect on hospitals is evident in the present research in which leadership was thought to either refer to hospital management or governments. Hence, the present research findings are consistent with the literature with regards to leadership

(whether management or government) support as a requirement by the staff to provide a culture of unity, confidence and involvement. A survey question regarding the improvement of the hospital and what it would depend on resulted in 7% of respondents stating that in order for hospitals to improve staffing issues need to be addressed, while 4% of respondents stated that management issues need to be addressed.

Furthermore, all five interviews with the managers and medical directors of the hospitals were in agreement with the staff in regard to leadership support as the main channel to incorporate involvement and improvement in healthcare institutions. Also, the importance of leadership was discussed thoroughly in the accreditation organizations' interviews and quality management interviews, as leadership was considered a great motivator for improvement and its commitment is required to provide staff commitment and overcome change. The following quotations provide examples from the answers to questions on management involvement and government support and their effect on hospitals:

> *"Another big change happened in the role of leadership now leaders are responsible, for planning, monitoring, prioritizing and getting involved in all the activities for quality and safety. They are responsible for contracts, medical ethics and human research, also there is a huge leadership and responsibilities chapter for leaders and this is a big shift." International accreditation organization.*

> *"It's a requirement by the ministry of health to be accredited by the national accreditation committee and in preparation for that, it allows to prepare for the international accreditation organization through fulfilling the requirements and having high quality provided to our patients with regards to patient safety." Medical Director.*

Moreover, many studies have demonstrated the alignment of leadership with culture and outcome of healthcare (West, et al., 2015; Avolio and Gardner, 2005 and Shipton, et al, 2008). Avolio and Gardner (2005) indicated that leadership is key to shaping organizations, as leaders create the organizational culture through their actions. If they monitor, develop and measure the performance and processes of the organization as a whole, it becomes a

part of the culture of the organization. Hence, the literature agrees with the present research that the culture of the organization stems from the culture of leadership, whether it is governmental or institutional leadership. One of the biggest challenge facing the NHS, is adopting a culture of continuous quality improvement and the key factor to accomplish this is the leadership (West, et al. 2015).

7.3.2.2 Culture

Culture is defined by Spencer-Oatey (2008, p.3) as "a fuzzy set of basic assumptions and values, orientations to life, beliefs, policies, procedures and behavioural conventions that are shared by a group of people, and that influence (but do not determine) each member's behaviour and his/her interpretations of the 'meaning' of other people's behaviour."

Research in the area of culture of quality has found different factors that sustain it and they include: clarity, providing support and involvement to and with staff, including training and quality improvement in practice norms and teamwork (Dixon-Woods, et al. 2014, Dawson, et al. 2011, West, et al. 2014). Also West et al. (2015) , added commitment with stakeholders and the alignment of the staffs' objectives with the objectives of the organization.

Moreover, to be able to adopt a culture of quality, healthcare organizations should adopt a strong staff development and quality improvement focus accompanied by commitment from the management, clarity throughout the organization and involvement of staff (Berwick 2013). According to West et al. (2015) , national leadership is a big influencer for developing culture in the healthcare sector and it should show its support, means of development and appreciation of staff and organizations, while maintaining improvement.

Hence, when the management is supportive of its staff and the staff feel confident and happy with their management, this leads to the creation of a positive climate in the organization, which would lead to excellence (West, et al. 2015). Also, trust is a result of positive culture and trust in the work place leads to engagement and improved performance of staff and the organization as a whole (Wong, et al. 2010). Thus, the notion that culture can overcome challenges in healthcare was supported by West et al. (2015) and in order to

have a culture of improvement the management have to involve and motivate the whole organization.

The present research findings support the literature with regards to culture as nine of the interviews mentioned the importance of culture and how it is influenced by leadership. The different cultures mentioned were the culture of quality, culture of continuous quality improvement and culture of change and accreditation. These cultures are all factors that provide unity in the organization and ease the process of accreditation. Additionally, the questionnaire respondents were asked regarding their opinion of the improvement of the hospital they work at in the future and 3% of the responses included culture of fairness and equity as a future development for the hospital. The following quotation provides an example of achieving a culture of accreditation through the involvement of all the hospital in quality of care:

> *".... it's a continuous cycle, we are doing well in terms of patient safety and accreditation, once you have indicator management active with continuous data monitoring and continuous updates and performance improvement projects ongoing, once you have the involvement of everybody, the accreditation will become a by-product, it's a natural result of everything that we are doing." Q.3*

To conclude, many studies including West et al. (2015) agree that leadership, involvement and culture result in improvement and are all included under the main theme of involvement.

7.3.3 Standardization

This section focuses on the theme of standardization and discusses two main factors in providing standardization which are, the importance of clarity of definitions and the systemization of contextual factors.

7.3.3.1 Importance of Clarity

The importance of clarity was discussed by Smith et al. (2008) especially in defining performance indicators and the development of individual performance indicators, which

requires experts and political attention. Moreover, it was stated that the presentation of performance measurement data also requires attention as its interpretation influences patients, providers, practitioners and the public.

Management has the responsibility of ensuring consistency and coherence of the many different activities that contribute to the aim of good healthcare. Thus, quality assurance fits into the initiatives aimed at bringing about improvements in healthcare (Dummer 2007). However, according to Maritz et al. (2010) transitioning to a quality-driven regime remains one of the greatest performance improvement needs and, to enable the transition, definitions of quality and performance measures should be clearly defined and tested for validity, reliability and responsiveness before being put into common practice.

Moreover, clarity in leadership and the provision of clear regulations, result in increased involvement and commitment from staff, a good reputation for the hospital and improved performance (West, et al. 2003). Managers should work on eliminating stress in the workforce, which could be brought about though clarity in the regulations, policies, objectives and processes of the hospital (Dixon-Woods, Baker et al. 2014, West 2013).

The findings of the current research expressed the importance of clarity in achieving compliance with standards, rules and regulations which are all factors that allow standardization in hospitals. Clarity was mentioned in five interviews conducted with the accreditation organization, training and quality managers. Moreover, the interviews expressed the importance of clarity in definitions, processes and procedures, through involving all stakeholders when developing the processes or procedures to ensure their ease of comprehension to all. In addition, documentation was considered to be a means to achieve clarity, while also establishing institutionalised standards enabling hospitals to develop indicators related to these standards and hospital workers. The following quotation is an example of the use of documentation to enable clarity and improvement:

> *"Having all the documents available and ensuring their completion is not just for the accreditation, it is for the safety and quality of our patients' care…We streamline everything from our policies to our forms and correlate them for clarity, which will follow with developing a*

development plan to stay in line and keep the gain, we do not have to
relax after that, we have to work from that step onwards" T.2

7.3.3.2 Systemization of Environmental Factors:

Pomey et al. (2010) explains how the environment in which accreditation takes place influences the type of change dynamics that occur in healthcare organizations. Moreover, Kaplan et al. (2010), highlights the importance of devising a practical model, the provision of clear definitions of environmental factors and well-specified measures, which are lacking in the literature of healthcare management. Furthermore, this was mentioned in an interview with the international accreditation organization, where it was stated that even comparing countries is difficult, unless they share similarities in the financing, infrastructure and the population.

> *"The middle east includes countries like the gulf, Syria, Lebanon, Jordan,*
> *Egypt and sometimes North African countries, so the range is very huge*
> *and is different in, the level of funding, the infrastructure, the political*
> *stability and the economic situation, so when you compare you cannot*
> *talk about the middle east as a whole. But you can compare healthcare*
> *systems in the gulf, as it is at the same country level."- International*
> *accreditation organization.*

Furthermore, Duckers et al. (2009) stated that changes and the combination of policy measures at higher levels lead to optimizing healthcare delivery results and further development of hospital quality management systems. Thus, hospitals are entering the stage of systematic quality improvement (Duckers, et al. 2009). Additionally, this is evident in the current research as the interview with the international accreditation organization also mentioned the notion of systemization of hospitals and how its effect causes improvement if sustained and utilized properly. The following quotation describes this notion:

> *"I see in the future more emphasis on systems and system development*
> *and evaluating the effectiveness of those systems, because when you*
> *develop a system the system keeps producing results so if it is well*
> *designed you getting better results if the system is not good it will*

Hence, standardization is conducted through clarity in the organization's processes and regulations and through systemizing the environmental factors. In addition to the involvement of leadership and staff, the two themes are means to achieve improvement.

7.3.4 Improvement

This section discusses the different approaches of improvement and support for the quality of care, which include: financial incentives and motivation, continuous improvement and training.

Hospitals adopt different means to ensure improvement, a study conducted by Lindenauer et al. (2007), indicated that hospitals' improvement in quality measures are higher when the Payment for Performance scheme (P4P) is adopted by the hospital. Moreover, they also state that hospitals engaged in both public reporting and pay for performance achieve greater improvements in quality of care than hospitals engaged only in public reporting (Lindenauer, et al., 2007).

Thus, financial incentives can increase improvement in quality of care among hospitals. This article corroborated the present research findings, as accreditation is considered a form of reporting. As for financial motivation, respondents from the surveys when asked regarding the future of improvement at the hospital where they work, only 2% of the responses mentioned their requirement of financial incentives. Moreover, four interviewees stated that financial incentives are expected to maintain and increase improvement. Thus, continuity of improvement is the goal for each hospital, as it is the means to sustain improvement of services and meet the needs and requirements of the hospital; this has been communicated by a quality manager who stated:

> *"Once you have indicator management active with continuous data*
> *monitoring and continues updates and performance improvement*
> *projects are ongoing, once you have the involvement of everybody, the*

accreditation will become a by-product of all of our work."- Quality manager.

The continuity of improvement is also supported by Devkaran and O'Farrell (2014) and Touati and Pomey (2009) who show that providing regular reports of performance and continuously updating indicators is required to provide and achieve Continuous Quality Improvement (CQI) and accreditation. In addition, training and education are provided by the management to ensure improvement through continuous effort for development (Almasabi, Thomas 2016, Al-Shehri, Al-Alwan 2013). This is also evident in the findings as half of the interviewees discussed the importance of training and education, through stating the following:

> *"Education and training is key and the leadership is another important key in this preparation process."-Quality manager.*

> *"Education and training for those surveyors is a huge effort and investment" -International accreditation organization.*

Thus, to apply continuous improvement in hospitals requires the availability of motivation for the staff to be involved in continuity of training and education, while also monitoring and reporting hospital and staff performance.

7.4 Implication for Practical Implementations

This section will discuss the applicability of the conceptual framework to the healthcare sector. For any hospital to be able to acquire accreditation and sustain it, the conceptual framework (Figure 7.1) would be of value as it provides the necessary requirements to achieve accreditation.

The steps to implement the framework start by first exploring the national and international standards, the goals, and objectives of the hospital and the needs of the population. After that, hospitals should develop standards for their own institution, through adopting and creating indicators which meet these standards on both the institutional level and the national level if it is not optional. Next, hospitals should set goals for meeting these indicators and the procedures to follow when the indicator is met, either to keep measuring

it after completion or to stop measuring this indicator and measure a new indicator. However, in all cases new indicators are developed when a need is required and when the essential indicators are met.

The department that will perform these tasks is the quality department, as their main tasks are to develop indicators (with the management, hospital staff and patient representatives), ensuring the hospital meets its goals and needs and provide continuous control and monitoring to performance measurement, while providing reports to the management.

When applying for the national or international accreditation, it is required to study the standards, implement them and ensure all requirements are available. These tasks are accomplished through the quality department in cooperation with hospital staff and management. The next step is applying for the accreditation and passing the assessment. Once passed, the goal is sustaining the accreditation, through constant shadowing of the development of standards and the needs of the country's population.

It is crucial for any hospital to have clear guidelines and processes that demonstrate the link between all three aspects (accreditation, quality and performance management) and their application, as all three elements ought to be in place and utilized correctly. Finally, for any hospital to sustain its position, it should be aware of any developments in the healthcare sector specifically and the economy overall, as the external and internal environments have a major effect on these processes and their outcome. Any changes in the healthcare industry such as the financing of the hospital or the sector, any outbreaks of diseases or any overall change in the community, must be taken into consideration. Figure 7.2 displays the application process of the conceptual framework in hospitals.

First	Second	Third	The department responsible is the quality department.
•Explore standards and align with hospital goals and the needs of the population.	•Set indicators to meet the standards.	•Set goals to meet these indicators and procedures to after completion.	

Fourth	Fifth	Sixth	Finally
•Preperation for the accreditation.	•Applying for the accreditation, acquiring it and sustaining the accreditation.	•Clear guidelines and processes that demonstrate the link between all three.	•Continous awarness of the internal and external contexts.

Figure 7.2 Framework implementation guidelines

7.5 Conclusion

This chapter presents an overview of the findings, aligns the findings with the literature and provides the conceptual framework of the current research.

The main findings of the research include the empirical validation of the theoretical framework and the alignment of the three main concepts: accreditation, quality and performance measurement. In addition, this chapter also includes the additions of the new themes which resulted from the interviews namely: involvement, standardization and improvement, as new components to the theoretical framework to develop the conceptual framework of the present research. Moreover, the new components were discussed through the literature and the findings. Involvement was the first component to be discussed and it covered the importance of engagement and commitment of staff, management and government to improving healthcare, while also providing the means to overcome resistance and obtain staff satisfaction and, finally, explored the effect of leadership on hospitals. Secondly, standardization was discussed which included the importance of clarity and systemization of processes, procedures and environmental factors. Thirdly, improvement was discussed as the result sought by hospitals to improve patient care and healthcare delivery. Finally, implementation guidelines for the conceptual framework were presented to provide the practical implications of the current research.

Chapter 8 Conclusion

8.1 Introduction

This chapter provides an overview of the current research in Section 8.2, which also includes the research gap and an overview of the research findings. Moreover, Section 8.3 provides the answers to the research questions, while Section 8.4 discusses the research contributions. Section 8.5 contains the research limitations and Section 8.6 provides the research recommendations. Finally, Section 8.7 provides the conclusion of the current research.

8.2 Research Overview

The present research investigates the impact of the alignment of accreditation, quality and performance management on the improvement of hospitals in the context of Saudi Arabia. Table 8.1 provides an overview of the research aims, objectives, research questions, and the research gap.

Table 8.1 lists the aims and objectives of the current research presented in Section 1.4, which expresses the research aim of investigating the alignment of accreditation, performance and quality management on the performance of hospitals, while also developing a framework which demonstrates the alignment. Moreover, the table also presents the objectives of the research to achieve the aim which addressed the alignment of accreditation, performance and quality management, their effect on hospital performance and the validation of the framework developed (Figure 7.1) through mixed methods as discussed in Section 5.3.

Furthermore, the table provides a listing of the research questions presented in Section 1.5, in addition to the chapters where the research questions were answered (Section 8.3) and, finally, provides an overview of the research gap which is discussed in Section 2.6 and presented in Table 2.2. The research gap is addressed through the alignment of accreditation, performance and quality management, while also incorporating the internal and external environments in addition to exploring the outcome of the alignment.

Table 8.1 Research Overview

Research overview	
Research aims	• To investigate the effect of the alignment of accreditation, performance and quality management on improvement of hospitals • To develop a framework that demonstrates the alignment
Research objectives	• To analyse the impact of integrated healthcare services, in particular accreditation, performance and quality management in Saudi hospitals • To investigate the effect of the alignment of accreditation, performance and quality management on hospitals performances • To validate the framework through the adoption of mixed methods
Main research question	• **How does the alignment of accreditation, performance and quality management affect hospitals**? ➢ Answered through the analysis and discussion chapters
Research questions	• How do accreditation, performance and quality management interlink in the health sector? ➢ Answered through the literature review and the analysis chapters • What are the applications of accreditation, performance measurement and quality of care? ➢ Answered in the literature review chapter • What are the organizational factors which affect the adoption of accreditation? ➢ Answered through the literature in the framework chapter, the analysis and the discussion chapters • What are the implications of accreditation on hospital management and staff? ➢ Answered through the analysis and discussion chapters
Research gap	The current research provides an addition to the literature through: aligning all three concepts, with the inclusion of the external environment through the perception of accreditation organizations and the internal environment through focusing on staff and management perception of accreditation.

Additionally, Table 8.2 provides an overview of the research design and analysis conducted to meet the research aims and objectives, answer the research questions and address the research gap.

Table 8.2 demonstrates the methodological approach to collecting and analysing the data, answering the research questions and conducting the research aims and objectives of the present research. The present research was of an exploratory nature, to explore the relationships between accreditation, performance and quality management and the impact of their alignment, through using the mixed methods approach.

Table 8.2 Research Methods and Analysis Overview

Research method and analysis overview	
Purpose	Exploratory to measure relationships and their effect.
Paradigm	Pragmatism for mixed method research: the quantitative section (positivism and objective) for the qualitative part (interpretivism and subjective).
Approach	Abductive approach conducted concurrently.
Strategy	1. Case study: multiple case studies, embedded as departments are compared, collective as they are multiple case studies conducted to understand the phenomena; 2. Questionnaire: to identify relationships and rigidness of the data.
Sample	➢ Purposeful sampling was conducted, due to limited access and time frame; ➢ 5 hospitals were selected with international accreditation.
Data collection	• 16 interviews: 14 semi-structured interviews with hospital management, quality and training managers and 2 interviews with accreditation organizations; • Questionnaire: 489 Reponses from the nursing, training, quality, laboratory and other departments.
Data analysis	• Multiple case studies: cross case analysis through adopting thematic analysis. • Questionnaires: factor analysis, reliability and correlation analysis.

Results	• Qualitative results: 3 new themes, 2 which affect the internal environment and 1 theme which is the outcome.
	 • Quantitative results:
	     o Factor analysis validated the relationship between the 3 concepts of this research: accreditation, quality and performance management
	     o Reliability showed that the results are robust and reliable
	     o The data showed to be strongly positively correlated
	     o Validation of the theoretical framework (Figure 3.13)
	     o Staff's perception on the effect of accreditation on hospitals was demonstrated

Moreover, the mixed methods approach allowed the adoption of pragmatism and the adoption of the abductive approach for data collection and analysis which allowed the conduct of both sets of research (quantitative and qualitative) at the same time.

To collect the data, the sample had to be done by purposeful sampling to only include hospitals with both international and national accreditations and the individuals who deal with the accreditation process. Hence, the data was collected from 5 hospitals in different cities in Saudi Arabia, in addition to 2 interviews with accreditation organizations, which

resulted in conducting 16 interviews and the collection of 487 questionnaires. The interviews were divided into 4 case studies and analysed through thematic analysis and cross case analysis of the multiple case study approach, which resulted in the addition of 3 main themes namely: involvement, standardization and improvement (discussed in Section 5.3). Additionally, the quantitative data were analysed to validate the questionnaire (Sections 6.4 and 6.5), validate the alignment and theoretical framework (Section 6.6) and provide the staff's perception on the effect of accreditation (Section 6.8).

8.3 Research Question Answers

8.3.1 Main Research Question

The main question the current research addressed is

How does the alignment of accreditation, performance and quality management affect hospitals?

It has been answered through the data analysis chapters (Chapters 5 and 6) and demonstrated in the discussion chapter (Chapter 7) in Section 7.3.1.

The qualitative chapter (Chapter 5) demonstrated the importance of the alignment of accreditation, quality and performance management, while also demonstrating that all three concepts result in improvement of healthcare delivery, as expressed by all four cases (16 interviewees). Moreover, the quantitative chapter (Chapter 6) validates the questionnaire and ensure its reliability, while also validating the theoretical framework (Figure 3.13). In addition, it provides insight into the staff's knowledge of accreditation, quality and performance management, while it also expressed the staff's perception of accreditation and the effect on the future of hospitals. Hence, both chapters lead to the development of the conceptual framework (Figure 7.1) which provides the theoretical framework in addition to the new concepts that results from the analysis.

8.3.2 Second Research Question

The second research question

How do accreditation, performance and quality management interlink in the health sector?

is answered through the literature review (Chapter 2) and supported in the analysis chapters (Chapter 5 and Chapter 6).

The literature review (presented in Section 2.5) in combination with the interviews (Chapter 5) explains how performance management is required to measure the quality of hospitals, and in order to achieve accreditation, performance and quality management should be in place in the hospital to enable meeting the standards of accreditation. Moreover, while the interviews and the literature demonstrate how the concepts depend on each other to be accomplished, the quantitative analysis (Chapter 6) exhibits and confirms the alignment of all three concepts, which was significantly positively correlated as discussed in Section 6.6. Furthermore, the second question leads to the development of the theoretical framework demonstrated in Chapter 3, Figure 3.13.

8.3.3 Third Research Question

The third research question

What are the applications of accreditation, performance measurement and quality of care?

is answered through the literature review chapter (Chapter 2).

The applications of the different means to collect performance measurements, the rationale behind the measurements, how to implement them and its different applications are presented in Section 2.2. Moreover, the various means to ensure quality of care, whether through adopting quality indicators or providing quality improvement and management are also discussed in Section 2.3. Additionally, the accreditation process and its strengths and weaknesses are provided in Section 2.4.

Furthermore, the literature demonstrates how in recent years' performance measurement has become an integral part of the health sector and an enabler to achieve accreditation, especially when the indicators are related to accreditation standards (Section 2.5.1). Also, the literature discusses how quality management is the means to ensure accreditation, as it

is the link between the accreditation organizations and the hospitals, which is discussed in Section 2.5.2. Finally, the literature review also covers the importance of performance measurement as a means to measure and evaluate the quality of an organization and how it is performing and meeting its standards (Section 2.5.3). Thus, the literature provides the applications of the three main concepts while also providing the ability of combining all three concepts to have an integrated system of healthcare.

8.3.4 Fourth Research Question

The fourth research question

What are the organisational factors which affect the adoption of accreditation?

is answered through the framework chapter (Chapter 3) and also through the analysis chapters (Chapter 5 and 6).

The framework chapter (Chapter 3) discusses various frameworks of accreditation, performance and quality management in Section 3.3, which addresses internal and external factors that affect hospitals. Additionally, it also addresses the framework development in Section 3.3.1, the theoretical framework for the current research was demonstrated in Section 3.4 and the three main concepts adopted for the current research are discussed. Also, the framework presents the internal and external environments' effects in Section 3.4.4, where the internal environment was affected by services delivery reforms and business modelling, while the external environment was affected by legal, political, technological, epidemiological, economic, social, demographical and environmental factors.

Moreover, the qualitative chapter (Chapter 5) provides the management and accreditations organizations' perception of accreditation, quality and performance management which are two themes related to the internal environment (Section 5.3). Also, the quantitative chapter (Chapter 6) provides the staff's perception of the three main concepts of the current research (Section 6.7). Furthermore, the analysis chapters result in providing the new additions to the internal environment of the theoretical framework to develop the conceptual framework demonstrated in Chapter 7, Figure 7.1, where the new additions to the internal environment included standardization and involvement.

8.3.5 Fifth Research Question

The fifth research question

What are the implications of accreditation on hospital management and staff?

is answered through the analysis (Chapters 5 and 6) and discussion (Chapter 7) chapters.

The interviews indicate that all the managers and medical directors agreed that accreditation affects hospitals positively through creating a positive culture, standardization and improvement (Section 5.3). Additionally, accreditation also influences hospital staff, as 40% of the staff who answered the questionnaire agreed that accreditation is a reason for improvement but it would have to take into consideration many issues including: the culture of the hospital, staffing issues, the adoption of technological upgrades, time management and the provision of financial motivation. To achieve an improvement in services and performance, and to sustain improvement, these issues should be overcome (Section 6.7).

Hence, the fifth question generated the new outcome to be added to the theoretical framework to develop the conceptual framework through adding the concept of improvement as an outcome to adopting accreditation of hospitals (Section 7.3.4).

8.4 Research Contribution

Although previous research discussed the different concepts and relationships among the three areas of accreditation, quality and performance management, none have aligned all three concepts together and incorporated the environment's effect. The current research demonstrated that the alignment is empirical through the adoption of mixed methods research, conducting multiple case studies and distributing questionnaires. In addition, the current research findings also demonstrated the impact of the alignment on the performance improvements of hospitals. Thus, these are the main research contributions and the following sections will discuss the contributions to the research and theory followed by the contributions to policy and practice.

8.4.1 Contribution to Research and Theory

The current research shows the alignment between accreditation, quality and performance management through the development of a conceptual framework (Figure 7.1) presented in Chapter 7, Section 7.3.1. The conceptual framework explains accreditation in the health sector and how it is linked to performance and quality management. Moreover, the framework was validated through conducting a factor analysis on the questionnaire data. While also signifying the importance to researchers and healthcare personnel interested in the area of quality of care, it provides an understanding of the processes as a whole with the inclusion of the internal and external environmental factors that would affect the adoption and application of accreditation. In addition, the current research provided the perception of the accreditation organisation which is the first to the researcher's knowledge to be conducted in a healthcare research.

The results of this research are consistent with the literature; however, this is the first research to align all three concepts with the environment, in addition to the inclusion of management, staff and the accreditation organizations' perceptions, expectations and experiences of all three concepts. Also, the current research is the first which adopts both the Open Systems Theory and Juran's Quality Trilogy in a framework, while conducting mixed methods research in the Saudi context.

Additionally, the current research conceptual framework (Figure 7.1) demonstrates an ease of monitoring and controlling for the organization and provides a culture of continuous quality improvement. Nevertheless, the culture and clarity of definitions, rules, regulations and procedures were unexpected findings of the current research, which suggests and supports the consideration of the internal and external environment when developing a framework and conducting research on organizations of any sector.

Finally, the current research findings also suggest that improvement of processes and performance can be achieved through implementing the alignment correctly and considering the constant changes in the environment.

8.4.2 Contributions to Policy and Practice

For hospital and quality managers, in addition to employees with interest in quality and accreditation, the present research provides a framework which demonstrates the alignment of accreditation, quality and performance management. Additionally, the alignment can be portrayed and provide physical change when all three systems are integrated and continuous feedback is provided to improve the systems.

Also, the current research provided the effect of the external and internal environment on the alignment and healthcare context. Moreover, practical implementation guidelines for the application of the framework has been discussed in Section 7.4, however the adoption of these systems should be dynamic to incorporate the constant changes in the environment and adapt to it.

Healthcare policy makers are interested in accreditation of hospitals and delivery of quality care. Hence, this research findings would be able to help policymakers and hospital workers in understanding the overall structure of the accreditation process from the health sector and health institutions' aspect. Additionally, the current research also helps with the development of standards and the assessment processes, which would guide the development of rules and regulations and provide their application in the health sector.

Finally, the framework presented in the current research can be applied to many sectors which incorporate accreditation and quality aspects, including but not limited to: the education, aviation and food industries.

8.5 Research Limitations

This present research has a number of possible limitations which are divided into methodological and data limitations and discussed in the following sections.

8.5.1 Methodology Limitations

This research takes into consideration the view of the hospital and its employees. It excludes the view of patients, vendors, suppliers and supply chain management because of time constraints and to narrow the focus of the research.

Another limitation includes the sampling, as only hospitals that have accreditation and have provided an acceptance to take part in the research were included. Although the answers were gathered from different hospitals, which provides the ability for generalization of the research, there is still an aspect of bias that could have happened. Bias is defined by Saunders, Lewis and Thornhill (2012), as a statement that would hide data, either conducted by the interviewee where he would want to seem knowledgeable or by interviewer's style that would affect the interviewee's response. Hence, bias could have occurred due to the selection of these particular hospitals or there could be bias in the results because of the sample targeted.

Finally, this research was conducted in the Saudi context, which is another type of bias as it is conducted in one country, even though every hospital and city is different they are responsible to the same ministry. However, there is no reason why the results should not be generalizable to other countries in the Gulf region as these countries share the same country profile.

8.5.2 Data Limitations

For the data, there is always the potential of bias and in this case it could have occurred due to the semi-structured nature of the questions which could have been answered differently by staff of public and private hospitals. There could also be bias of the interviewees for or against their organization. Another source of possible bias includes the many different possible themes that may have been uncovered with a different sample or the usage of a specific tool to measure performance.

Another limitation would be the inclusion of staff of the national and international accreditation organizations. There could have been bias towards their organizations, but their involvement was enriching for the present research to include a national and international aspect on the accreditation process and their views on the improvement of hospitals after they applied for accreditation.

Moreover, there have been no previous studies that addressed staff and management views on the effect of accreditation on the improvement of organizational performance. In addition, the interviewees were selected from a nationally representative sample of

practices and were all involved in the day-to-day management and processes of accreditation. However, the results did not incorporate improvement in the medical records of patients nor were patients interviewed.

Finally, the present research discussed the perception of staff, middle and top managers of hospitals, in addition to accreditation organizations perception. However, patient's perception was not incorporated in the research aims and objectives for the difficulty and sensitivity of the data, the many ethical approvals which would take a long time to acquire and could not guarantee participation. Hence, patient's perception was not included in the current research and is mentioned in the following section as a recommendation for future research.

8.6 Recommendations

The present research stipulates many aspects of future research and provide an impact on hospital implementation of the framework provided, which leads to the division of this section into two section, the first covering research recommendations, followed by the second aspect which discusses recommendations for practice.

8.6.1 Research Recommendations

Recommendations for future research include a comparison study of the before and after effect of accreditation on hospitals which are applying for accreditation for the first time, or for hospitals which are applying for re-accreditation. Another would be to compare performance improvement of hospitals that have accreditation with hospitals that are not accredited.

Moreover, future research could test the current research conceptual framework adoption in different countries or different fields and inspect its application and effect on performance measurement and quality management. New factors could emerge from such testing that could be added to the framework.

Also, future studies could include patients' perception of organizational performance, focus on staff perception or involvement in management decisions and its effect on performance improvement of the organization.

Additionally, the present research provides a rich set of quantitative data which following this study could inspect casual relationships between the different means and effects of quality, performance and accreditation aspects within the hospital. This would lead to forming an explanatory research for the high correlations between the three main aspects and the possibility of conducting regression analysis between the different aspects and improvement.

8.6.2 Practice Recommendations

The current research recommends proper implementations of performance and quality systems within hospitals and the integration of such systems with the accreditation process to allow ease of data collection and in-depth understanding of hospital performance.

In addition, it also recommends the inclusion of all staff or staff representatives when developing standards to allow comprehension of the standards and decrease resistance. Finally, the current research emphasises the importance of staff satisfaction and organizational culture to achieve improvement, especially when incorporating new systems which would cause change to the organizations environment, for example in the current research the accreditation process was incorporated as a change agent.

8.7 Conclusion

The present research addresses the importance of aligning accreditation, quality and performance management in hospitals, while also investigating the results of this alignment. The literature review provided evidence of the importance of the three main concepts and how they could be aligned, yet the alignment was not addressed. In addition, the researcher also included the integration of the internal and external environment when considering the alignment and as healthcare is an open system it is affected by its environment, hence the incorporation of the external and internal factors was valid and valuable to the research, as addressed in the framework chapter. The development of the theoretical framework after consideration of the literature and the various frameworks available related to the three main concepts, while it also highlighted the theory incorporated in the framework which is a combination of the Open Systems Theory and the Juran's Quality Trilogy.

Moreover, this research adopted mixed methods research, through multiple case studies with hospital management and accreditation organizations which provided their perception on accreditation, performance and quality management on the targeted hospitals and the health sector in the country and the region. While, the questionnaires were administered to validate the framework, and the questionnaire design, ensure the alignment is identifiable and provide the staff's perception on the present and future aspects of the hospitals considered.

Furthermore, the findings validated the theoretical framework and led to the development of the conceptual framework which is one of this research's contributions, through adding the involvement and standardization themes as internal environment influencers and improvement as the desired outcome of the alignment.

The involvement theme includes involving the whole hospital in the accreditation process and developing standards of care, whether quality or performance standards. It also includes involving the government and management of hospitals as it affects the performances of the hospitals and the healthcare sector in the countries involved. Additionally, involvement of the whole hospital creates a culture of improvement and quality at hospitals.

Moreover, the theme of standardization includes standardizing performance, indicators and measures throughout the hospital, while also aligning the standards with the mission and vision of the hospital. Standardization also includes documentation of the processes, rules, regulations and procedures with the consideration of clarity and the development of a systemized approach to provide ease of interpretation and follow by the hospital staff.

Improvement in the current research is not limited to performance, rather it includes services, indicators and quality improvement, in addition it is required to be a continuous cycle to achieve and sustain. Likewise, the discussion chapter provides evidence from the literature which supports the notion of the importance of the mentioned themes that result from the data and how they affect hospitals.

Finally, this research gained its momentum while collecting the data, as its importance was confirmed by the head of an international accreditation organization with the following quotation:

> *"This research is what I've tried to explain in the WHO's last meeting, yet no one was able to comprehend its importance and its linkages. Once you are done we are interested in reading your thesis."* The head of an international accreditation organization.

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Appendix

PARTICIPANT INFORMATION SHEET
The Effect of Accreditation on Quality and Performance Measurement.

You are being invited to take part in a research study. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

The purpose of this study is to investigate the effects and alignment of accreditation on performances and quality management at hospitals in Saudi Arabia. Your input would help with obtaining the overall effect of how accreditation, quality and performance management affect hospitals. Interviews will take place with senior managers in different hospitals across Saudi, while questionnaires will be distributed to staff of the quality, laboratory and research and development/ training departments in the selected hospitals.

As participation is entirely voluntary, it is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

Participation in an interview or in filling a questionnaire would be requested to obtain the required data for the thesis. It won't take more than 20 minutes for interviews and 15 minutes for questionnaires, questions will be asked regarding how performances are measured and how quality checks are performed in accordance to hospital accreditation.

All information that is collected during the course of the research will be kept strictly confidential. Any information about you that leaves the hospital will have your name removed so that you cannot be identified from it. All data will be anonymous.

This project has to be completed in part fulfilment of my degree program and is funded by the ministry of Higher Education in Saudi; it has been reviewed by the research ethics committee at Brunel University, London and will be found on Brunel University's server for future reference.

Brunel University is committed to compliance with the Universities UK [Research Integrity Concordat](). You are entitled to expect the highest level of integrity from our researchers during the course of their research.

You will be given a copy of the information sheet and a signed consent form to keep. Many thanks for agreeing to participate in my research project.

Contact for further information,
Heba Alqurashi
PhD student at Brunel Business School, Brunel University, London.
E-mail:cbpghaa@brunel.ac.uk

PARTICIPANT CONSENT FORM

		YES	NO
The participant should complete the whole of this sheet			
	Please tick the appropriate box		
Have you read the Research Participant Information Sheet?		☐	☐
Have you had an opportunity to ask questions and discuss this study? Who have you spoken to? _____		☐	☐
I understand that I will not be referred to by name in any report concerning the study.		☐	☐
I understand that I am free to withdraw from the study:			
• at any time		☐	☐
• without having to give a reason for withdrawing		☐	☐
I agree to my interview being recorded.		☐	☐
I agree to the use of non-attributable direct quotes when the study is written up or published.		☐	☐
Do you agree to take part in this study?		☐	☐

Signature of Research Participant:
Date:
Signature of Researcher:
Date:

Appendix 3: Interview Questions and Questionnaire

First of all thank you for meeting me today. As I know you have a busy schedule I will try to keep it short.

As you are the (interviewee post) of the hospital, I would like to congratulate you on the accreditation and reaccreditation of the hospital from the Joint Commission International, which shows how much the hospital, seeks improvement.

My first question would be what made the hospital apply for accreditation and how did it prepare for it?

Were any of the standards related to your daily activities?

What does the hospital use to measure the performances of its staff? Where in the hospital is it used? And how frequent is it updated? (for Quality department only).

What benefits or results have been accrued (e.g., effects on quality, costs of care, how care is delivered) (e.g. quality improvement, financial support, learning, etc.)?

What challenges did the hospital face while preparing for accreditation and post accreditation?

What types of system changes have occurred as a result of measure use?
What benefits or results have been accrued (e.g., effects on quality, costs of care, how care is delivered) (e.g. quality improvement, financial support, learning, etc.)?

Is your feedback considered in any stage of the development, implementation or improvement of the accreditation process and its standards (i.e. consultatively driven)?

How would you describe the performance of the hospital overall after the accreditation and what is the plan to maintain the accreditation?

Do you think that accreditation is generally leading to improvement in the services' quality in this hospital?

Last question as you know the finances around the world are becoming tighter, do you think organizations ability to learn and improve, drives future financial performances? Or in other words how do you think accreditation affects hospitals when it comes to finances? (As we know it's expensive to have it and maintain it but what financial benefits would occur).

Thank you for meeting me.

The Effect of Hospital Accreditation on Quality and Performance Management

You are being invited to take part in a research study that is required in part fulfillment of my PhD degree. This questionnaire will take approximately 10-15 minutes to fill.

The first section will contain socio-demographical and broad questions; the second section will ask questions regarding your knowledge, experience and opinion of quality and performance management in your hospital. Each section has a description on how to answer its questions.

Thank you for your help in advance.

Section One:

This section asks some social, demographical and broad knowledge questions, please choose one of the options and fill in the blank when required.

Gender:

☐ Male.

☐ Female**.**

Age:

☐ Less than 20 years old.
☐ 20 to 29 years old.
☐ 30 to **3**9 years old.
☐ 40 to **4**9 years old.
☐ More than 50 years old.

Department:

☐ **Nursing.**
☐ **Quality.**
☐ **Laboratory.**
☐ **Research and development.**

☐ **Training.**
   Other.
   If other please specify: _____

How long have you been working at this hospital?

Do you know what measurement tool is used at your hospital to measure performances?

☐ No.
☐ Yes.
   If yes please specify:
   _____

The following section will contain questions on your experience and opinions.
To answer the following questions please follow this process:
- I. **Questions 1-8: are yes and no questions please choose one answer.**
- II. **Questions 9-24: please rate to which degree do you agree on every statement regarding your hospital (strongly agree, agree, neutral, disagree and strongly agree).**
- III. **Questions 25 & 26: please rate your satisfaction of the mentioned statements in your hospital (completely satisfied, satisfied, neutral, not satisfied, completely not satisfied).**
- IV. **Question 27: please write your answer.**

Questions	Yes	No
1. Does employees' performances improve due to accreditation process?		
2. Are you satisfied with the existing quality improvement system in your hospital?		
3. Do you consider your hospital to be involved in Continuous Quality Improvement/Total Quality Management (CQI/TQM) efforts?		
4. Does your hospital have a quality manual?		
5. Has your hospital received any quality excellence awards?		
6. Do you agree: after implementing PMS it is noticed that quality of services have improved?		
7. Do you agree, after implementation of PMS the organizational climate has changed to a very productive and healthy environment?		
8. Has your hospital acquired any form of accreditation?		

Questions	Srongly agree	Agree	Neutral	Disagree	Strongly disagree
Management Responsibility:					
• **Management Commitment**					
9. Senior management ensures the availability of resources to achieve objectives.					
10. Regular review of suitability of quality policies and objectives take place.					
11. The senior executives have demonstrated an ability to manage the changes (e.g., organizational, technological) needed to improve					

the quality and services.					
12. The senior executives act on suggestions to improve quality and services.					

- **Responsibility, Authority and communication**

13. Appointment of key personal (management) responsible for establishments, implementation and maintenance of quality management system (QMS).					
14. A very good communication process is established in the hospital for effective QMS.					

- **Resource Management**

15. Staffs are given education and training in how to identify quality improvement opportunities.					
16. Staffs are given the needed education and training to improve their performances.					

Quality Management System:

- **Quality manual.**

17. Quality policy and quality objectives are documented in quality manual.					
18. Internal audits are performed on the quality system.					

- **Quality Results**

19. Quality improvement teams including employees from multiple departments and from different organizational levels are a major mechanism for introducing improvements in organizational processes.					
20. Over the past few years, the hospital has shown steady, measurable improvements in the quality of services.					
21. Over the past few years, the hospital has shown steady, measurable cost reduction while maintaining or improving quality.					

Employee Satisfaction/ Work Environment:

22. Improving productivity/ efficiency					

	improves performances.					
23.	Improving continuity of quality improves performances.					
24.	Having opportunities to use your skills and abilities improves performances.					

Questions	Very satisfied	Satisfied	Neutral	Not satisfied	Not at all satisfied
25. To date, how satisfied are you with the results of your organization's efforts to improve quality?					
Please rate your satisfaction with the following aspects of your hospital's efforts to improve quality:					
a) Board understanding of quality.					
b) Degree of board commitment to continuous improvement of quality.					
c) Quality of training provided.					
d) Ability to communicate the quality across the organization.					
e) Level of employee participation in giving suggestions for improvement of quality.					
f) Effective utilization of resources.					
26. How satisfied are you with the following parts of your current performance management system:					
a) Performance planning/goal setting					
b) Performance evaluation					
c) Continuous two way feedback					
d) Training					
e) Rewards					
f) Discipline					
g) Overall performance management system.					
27. What changes could you see in the future of your hospital in accordance to accreditation, performance and quality improvement?					