



GORDON INSTITUTE  
OF BUSINESS SCIENCE  
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## **The impact of risk management on service quality in public hospitals**

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of Master of Business Administration

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## ABSTRACT

**Purpose** – The main aim of this study is to investigate the relationship between risk management practices and service quality in outpatient departments of Gauteng public hospitals. The study also evaluates the quality of the service provided at these outpatient departments.

**Methodology** – The research design firstly included the review of literature on risk management and service quality. The study applied a quantitative research methodology where structured self-administered questionnaires were used as the data collection tools which were distributed to hospital staff to assess the relationship between risk management practices, and different set of questionnaires distributed to patients visiting the outpatient department. Judgement and convenience sampling was used to select the hospital staff and the patients, whereas stratified sampling was used to select the hospitals that were visited.

**Findings** - The study reveals that outpatient departments of Gauteng public hospitals seem to be performing well with high patient perception scores. The positive aspects of *service quality* include neat and knowledgeable staff and informative patient files. The results show that only some of the risk management practises had a significant effect on *service quality*, such as *management support and commitment, training and education* and *continuous improvement*.

## **DECLARATION**

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements of the degree of Master of Business Administration at Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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**Ncumisa Mnyani**

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**Date**

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## Table of Contents

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iv
CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM.....	1
1.1 Background and description of the problem.....	1
1.2 Why was the research topic selected?.....	3
1.3 What is the relevance of the topic to management in South Africa.....	5
1.4 Scope of the research.....	6
CHAPTER 2: LITERATURE REVIEW.....	8
2.1 Introduction.....	8
2.2 Service Quality.....	8
2.3 Enterprise Risk Management.....	12
2.4 Risk Management and Quality Management.....	18
2.5 Quality Management Managerial Approaches.....	20
2.6 Conclusion.....	24
CHAPTER 3: RESEARCH HYPOTHESES.....	25
CHAPTER 4: RESEARCH METHODOLOGY.....	27
4.1 Research Design.....	27
4.2 Method of Data Collection.....	27
4.3 Questionnaires.....	28
4.4 Sampling Method.....	29
4.4.1 Target population.....	29
4.4.2 The sampling technique.....	29
4.5 Method of Data Analysis.....	30
4.6 RESEARCH PROCESS.....	30
4.6.1 Ethical Issues.....	30
4.6.2 Envisaged limitations of the study.....	31

CHAPTER 5: PRESENTATION OF RESULTS.....	32
5.1 INTRODUCTION TO THE RESULTS.....	32
5.2 SUMMARY OF THE DESCRIPTIVE DATA OF THE HOSPITAL STAFF RESPONDENTS .....	32
5.2.1 Age of the sampled hospitals staff.....	32
5.2.2 Gender of respondents.....	33
5.2.3 Education level of the respondents .....	34
5.2.4 Position of respondents within the organisation.....	34
5.2.5 Extent of risk management practices .....	35
5.3 SUMMARY OF THE DESCRIPTIVE DATA OF THE PATIENT RESPONDENTS .....	36
5.3.1 Age of the sampled patients .....	36
5.3.2 Gender of respondents.....	37
5.3.3 Number of times visited.....	38
5.3.4 <i>Service quality</i> perceptions by patients.....	39
5.4 INFERENCE STATISTICS.....	44
5.4.1 PEARSON CORRELATION TEST.....	44
5.4.1.1 Pearson Correlation between management support and commitment and service quality .....	45
5.4.1.2 Pearson Correlation between employee involvement and service quality .	47
5.4.1.3 Pearson Correlation between the employee empowerment and service quality .....	48
5.4.1.4 Pearson Correlation between information and communication and service quality .....	50
5.4.1.5 Pearson correlation between training and education and service quality...	51
5.4.1.6 Pearson Correlation between customer focus and service quality.....	52
5.4.1.7 Pearson Correlation between continuous improvement and service quality .....	54
5.4.2 CHI-SQUARE TEST.....	55



5.4.2.1 The Chi-square between Management support and commitment and service quality .....	56
5.4.2.2 The Chi-square between employee involvement and service quality .....	57
5.4.2.3 Chi-square between the employee involvement and service quality .....	58
5.4.2.4 Chi-square between the information and communication and service quality .....	59
5.4.2.5 Chi-square between training and education and service quality .....	60
5.4.2.6 Chi-square between customer focus and service quality .....	61
5.4.2.7 Chi-square between continuous improvement and service quality .....	62
5.5 CONCLUSION .....	63
CHAPTER 6: DISCUSSION OF RESULTS.....	64
6.1 INTRODUCTION.....	64
6.2 KEY FINDINGS FROM THE RESEARCH.....	64
6.2.1 Demographic profile of hospital staff.....	64
6.2.2 Demographic profile of patients .....	66
6.2.3 Hypothesis one .....	66
6.2.3.1 Discussion of hypothesis one .....	67
6.2.3.2 Conclusion on hypothesis one.....	68
6.2.4 Hypothesis two .....	69
6.2.4.1 Discussion of hypothesis two.....	69
6.2.4.2 Conclusion on hypothesis two .....	70
6.2.5 Hypothesis three .....	70
6.2.5.1 Discussion of hypothesis three.....	70
6.2.5.2 Conclusion on hypothesis three .....	71
6.2.6 Hypothesis four .....	72
6.2.6.1 Discussion of hypothesis four.....	72
6.2.6.2 Conclusion on hypothesis four .....	73



6.2.7 Hypothesis five.....	73
6.2.7.1 Discussion of hypothesis five.....	74
6.2.7.2 Conclusion on hypothesis five.....	75
6.2.8 Hypothesis six.....	75
6.2.8.1 Discussion of hypothesis six.....	75
6.2.8.2 Conclusion on hypothesis six.....	76
6.2.9 Hypothesis seven.....	77
6.2.9.1 Discussion of hypothesis seven.....	77
6.2.10 Hypothesis eight.....	78
6.2.10.1 Discussion of hypothesis eight.....	79
6.2.10.2 Conclusion on hypothesis eight.....	80
6.2.11 Conclusion on chapter 6.....	80
CHAPTER 7: CONCLUSION AND RECOMMENDATIONS.....	81
7.1 Introduction.....	81
7.2 Summary of the key findings from the study.....	81
7.3 Recommendations to public hospitals.....	82
7.4 Suggestions for future research.....	83
Reference list.....	85
APPENDICES.....	89
1.1 APPENDIX 1: HOSPITAL STAFF QUESTIONNAIRE.....	89
1.2 APPENDIX 2: PATIENT QUESTIONNAIRE.....	96

## TABLE OF CONTENTS

Figure 1: Categories of ages of hospital staff respondents.....	33
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Figure 2: Gender of the respondents ..... 33

Figure 3: Education level of respondents..... 34

Figure 4: Position of respondents within the organisation ..... 35

Figure 5: Extent of risk management practices ..... 36

Figure 6: Patients' age groups ..... 37

Figure 7: Gender of respondents..... 38

Figure 8: Number of times visited hospital ..... 39

Figure 9: *Service quality* perceptions by patients..... 41

Figure 10: Expectations minus perceptions scores by patients ..... 43

Figure 11: Extent of *service quality* ..... 44

**LIST OF TABLES**

Table 1: Extent of risk management practices ..... 35

Table 2: *Service quality* perceptions by patients ..... 40

Table 3: Expectations minus perception scores by patients ..... 42

Table 4: Correlation between *management support and commitment* and *service quality*..... 45

Table 5: Correlation between *management support and commitment* and *service quality*..... 46

Table 6: Correlation between *employee involvement* and *service quality* ..... 47

Table 7: Correlation between *employee involvement* and *service quality*..... 48

Table 8: Correlation between *employee empowerment* and *service quality* ..... 49

Table 9: Correlation between *employee empowerment* and *service quality*... 49



Table 10: Correlation between <i>information and communication</i> and <i>service quality</i> .....	50
Table 11: Correlation between <i>information and communication</i> and <i>service quality</i> .....	51
Table 12: Correlation between <i>training and education</i> and <i>service quality</i> .....	51
Table 13: Correlation between <i>training and education</i> and <i>service quality</i> .....	52
Table 14: Correlation between <i>customer focus</i> and <i>service quality</i> .....	53
Table 15: Correlation between <i>customer focus</i> and <i>service quality</i> .....	53
Table 16: Correlation between <i>continuous improvement</i> and <i>service quality</i> .....	54
Table 17: Correlation between <i>continuous improvement</i> and <i>service quality</i> .....	55
Table 18: Chi-square between <i>management support and commitment</i> with <i>service quality</i> .....	56
Table 19: Chi-square between <i>management support and commitment</i> with <i>service quality</i> .....	56
Table 20: Chi-square between <i>employee involvement</i> and <i>service quality</i> .....	57
Table 21: Chi-square between <i>employee involvement</i> and <i>service quality</i> .....	57
Table 22: Chi-square between <i>employee involvement</i> and <i>service quality</i> .....	58
Table 23: Chi-square between <i>employee involvement</i> and <i>service quality</i> .....	58
Table 24: Chi-square between <i>information and communication</i> and <i>service quality</i> .....	59

Table 25: Chi-square between *information and communication* and *service quality*.....59

Table 26: Chi-square between *training and education* and *service quality*.....60

Table 27: Chi-square between *training and education* and *service quality*.....60

Table 28: Chi-square between *customer focus* and *service quality* .....61

Table 29: Chi-square between *customer focus* and *service quality* .....61

Table 30: Chi-square between *continuous improvement* and *service quality* .....62

Table 31: Chi-square between *continuous improvement* and *service quality* .....62

# **CHAPTER 1: INTRODUCTION TO THE RESEARCH PROBLEM**

## **1.1 Background and description of the problem**

The World Health Organization (WHO) defines health as “[a] state of complete physical, mental and social well-being.” Unfortunately, for the majority of people in South Africa and the world, most especially for those located on the African continent, the WHO’s definition of health is far from reality (Hassim, Heywood and Berger, 2007). This is evident from the ratings reflected on the Global Competitiveness report which ranked South Africa 45<sup>th</sup> out of 133 countries on national competitiveness, making it the highest ranked country in sub-Saharan Africa. At the same time, South Africa was placed 125<sup>th</sup> on the Health and Primary education pillar of competitiveness due to high rates of communicable diseases and poor health indicators generally (The Global Competitiveness Report [GCR], 2009-2010).

The South African Demographic and Health Survey (SADHS) 2003 report (issued in 2007) indicates that the users of the public sector health services appear more dissatisfied with the services when compared with the 1998 survey; Gauteng and the Eastern Cape reflected the highest dissatisfaction with the public hospitals and community health centres. The major reasons cited for dissatisfaction with the public sector hospitals and community health centres are long waiting times, staff attitudes, prescribed medication

not being available and shortages of staff, mainly doctors and pharmacists (SADHS, 2007).

A study conducted by Horwitz and Pundit (2008) revealed that the factors which contribute strongly to job satisfaction among nurses in South Africa include satisfaction gained from patient care. 65% of the nurses in the public sector were generally unhappy with their working environment which eventually leads to absenteeism and indifferent behaviour towards patients, therefore lowering the level of service quality. The low levels of job satisfaction have resulted in large numbers of health care professionals leaving the country or moving to private health care. The impact for the country is huge as over 40 million South Africans are dependent on public health services, which are primarily staffed by dissatisfied nurses (McIntyre, Thomas and Cleary 2004; Horwitz and Pundit 2008).

The South African health sector presents a paradox in that it has an advanced biotechnology sector and health facilities and relatively sound policy framework, on the one hand, but the reports from the WHO and the GCR indicate that it is still a challenge to improve the socio-economic well being of the majority of South Africans, on the other. One of the contributory factors identified is the lack of management capacity that, in turn, negatively impacts on policy implementation and health system functioning (Pillay, 2008).

South African government expenditure on health is 8% of GDP higher than the global average of 8.7%; the per capita government expenditure on health is US\$160 compared to the global average of US\$716. This latter figure clarifies some of the contributory factors to the dire state of the health sector as indicated by the Global Competitiveness Report.

From the above, it is clear that the South African public health care system is currently plagued by poor quality health care services due to a combination of factors: insufficient finances, lack of health management capacity which negatively impacts policy implementation and health system functioning, expanding demand, inadequate drugs, equipment and supplies, shortage of health care professionals and poor staff motivation (McIntyre, Thomas and Cleary 2004; Horwitz and Pundit 2008; Pillay 2008).

## **1.2 Why was the research topic selected?**

The government that came into effect in 1994 after the first democratic elections inherited a health sector which mirrored the inequalities of the wider society. One of the factors that the government had to deal with was the fact that the private health care was deregulated resulting in excessive costs, making it unaffordable to the majority of the population (Henning 2003; McIntyre, Thomas and Cleary 2004; Fish and Ramjee 2007).

South Africa has a population of 48.8 million people and only 20% of the population have access to over 60% of the financial resources (private health care) while the historically disadvantaged majority (80%) has 40% of financial resources devoted to their health care needs. The apartheid era left a legacy of massive inequalities in income, health status and access to health and other social services (McIntyre, Thomas and Cleary 2004; Luiz and Wessels 2003). Therefore, the South African government plays a bigger role in the provision of health care to the majority of the population so the impact of this sector is huge on the country as a whole.

South Africa is the country with the largest number of HIV/AIDS infection in the world with 18.1% of the adult population living with the virus. More 55% of all South Africans infected with HIV live in KwaZulu-Natal and Gauteng (AIDS Epidemic Update, 2007). Therefore, it is crucial that public health system be improved to ensure that the population does not shrink to a point where there is insufficient workforce especially in these two provinces.

A nation's competitiveness depends on the capacity of its industry to innovate and upgrade: as the basis of competition has shifted more to the creation and incorporation of knowledge the role of the nation has grown. The only meaningful measure of competitiveness at the national level is productivity which will result in rising standard of living for its citizens (Porter, 2008). Therefore, a healthy workforce is vital for a country's competitiveness and productivity, because workers who are ill cannot function to their full potential.

Their decreased productivity results in huge costs for businesses in the form of absenteeism and lower levels of efficiency (GCR, 2009-2010).

The government expenditure trend together with growing demands on publicly provided health care, especially the impact of HIV/AIDS, has adversely affected the availability and quality of public health care services (McIntyre, Thomas and Cleary 2004).

Therefore, the literature review suggests that the South African public health sector is experiencing serious challenges that are negatively affecting the majority of the population. Research on the *quality of service* in the public health sector will highlight the nature and extent of challenges facing this sector as the review will examine the extent of risk management practices and also highlight the areas where management should focus its attention so that they can improve the *quality of service*.

### **1.3 What is the relevance of the topic to management in South Africa**

The results of this research will enhance the understanding of the key factors that contribute to the improved service quality in public health care and explaining why private hospitals are doing better than public sector. Such insights will assist in bridging the gap between patient expectations and the quality of service delivered at public hospitals.



The government's ultimate goal is to make the South African public health care sector so efficient and effective that it competes with private health care, through building health systems that are responsive to community needs, particularly those of the poor. Therefore, the results will also offer the policy makers information that can help in formulating public health policy which can improve the quality of public health care and make it a competitor for the private health care.

#### **1.4 Scope of the research**

The health care sector is broad as it includes all the service providers responsible for health care delivery to the public, including public and private hospitals, pharmaceutical companies, pharmacies, medical aid companies and traditional healers. The study cannot comprehensively cover all aspect of the provision of health care. It focuses on assessing the extent of risk management practices and the impact of such practices on the quality of service that is rendered to the patients that visit the Outpatient Departments (OPDs) of public hospitals in Gauteng Province.

An OPD is that part of a hospital where patients walk in without an appointment and patients are served on a "first come first served" basis. It includes the registry section, where patients collect their personal files or where new patients open new files. The OPD also includes the consulting nurses and doctors as well as the dispensary section where the patients collect their prescribed medication before they leave the hospital.

The objectives of the study is to determine the extent of patient satisfaction with the quality of service rendered by the public hospitals and also establish the hospital staff's perceptions about the level of quality of service that they render to the patients. The study also wants to ascertain the extent to which risk management is practised within the public hospitals and try and determine if these risk management practises influence the quality of service in the public hospitals.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

In recent years there has been an increase in demand for services coupled with significant budget reduction on the other hand. This has resulted in increased pressure on management to do more with less and a consequent need to re-examine managerial approaches adopted to achieve the organisation's goal. Therefore it is essential to manage differently in order to enhance the value of the organisation (Ronen and Pliskin, 2006).

### **2.2 Service Quality**

During the 1980s concerns about competitiveness stimulated many companies to take a new interest in quality. Japanese and other Far East companies had impressive market share growth prior to and during the period. Much of the gain was due to markedly superior quality performance. The main contributors to the philosophy of quality were W. Edwards Deming, Joseph M. Juran and Philip B. Crosby, who each had a distinct orientation although they all argued for similar points (Oberholzer, 2002)

Deming is widely credited with leading the Japanese quality revolution that exposed the managers from the 1950s onwards to the fundamental concept of variance reduction through the introduction of tools and techniques such as statistical process control. The "uniformity approach" also referred to by

Ronen and Pilskin (2006) looks at quality as the ability to offer services in a uniform manner with limited variations since notable variations create problems for the customer. He envisaged quality as an organisation-wide activity rather than a technical task of quality specialists.

Oberholzer (2002) also highlighted the central role of managers in bringing about essential improvements in quality conformance levels and productivity. Quality management provided a viable strategy for corporate survival and growth; a quality management programme would lead to such high levels of savings that it would pay for itself (Oberholzer 2002). The goal of quality improvement is the achievement of zero defects through prevention rather than the cure that takes place only after inspection (Oberholzer 2002).

In similar vein, Ronen and Pilskin (2006) highlighted that quality service is achieved by a quality process when the employees and managers are part of the process and are actively involved in the process design and control. A process can only be improved when teamwork is used to identify problems, solve them and prevent their recurrence, therefore management commitment to this entire process is key.

There seems to be consensus on how service quality is defined by the various authors, as it is defined as the ability of the service provider to meet or exceed customer needs and expectations (Bakar, Akgun and Assaf 2007; Quader 2009; Sohail 2003). Quader (2009) defines expectations as the pre-experience beliefs about the service against which the actual service

performance is then measured. Hence Chowdhary and Prakash (2007) describe service quality as the gap between consumer's expectations and perceptions. The gap is what the organisations needs to close for the customers to be more satisfied, therefore this gap needs to be measured to ascertain what is considered unacceptable and how to improve on that (Nwabueze and Mileski, 2008).

Agreeing with this definition, Ronen and Pliskin (2006) highlight that there are various other definitions such as the economic approach which will ensure that the service is delivered in the most economical form for the organisation through "doing it right the first time" without failures and by ensuring that all activities that add no value to the customer, the service or the process are eliminated.

Another approach cited by Ronen and Pliskin (2006) is the "centrality of the customer" approach" which states that the customer is the one that sets the performance standards, and, therefore that all organisational efforts should be focussed on customer requirements. Nwabueze and Mileski (2008) also support this notion as they consider quality service to be delivered when management's focus and strategic implementation do not contradict the perceptions of the consumers. These customer's perceptions of service are influenced by the conditions under which the service is delivered as well as by the employees' attitudes towards the customer (Oliva and Bean, 2008).

Oliva and Bean (2008) state that service organisations generate their value through the delivery of intangibles which makes it difficult to fix an objective standard. Therefore it becomes necessary to identify the determinants of service quality in order to be able to specify, measure, control and improve it. The starting point of an effective system of service quality is management's understanding and appreciation of customer perceptions and expectations (Nwabueze and Mileski, 2008).

Kang and James (2004) highlight the importance of measurement through which health management is in a stronger position to make informed decisions on the allocation of scarce resources in a way that maximises the value of consumer-oriented service outcomes (Wong, 2002). The most widely used approach for measuring service quality has been to compare a customer's expectations before a service encounter with their perceptions of the actual service delivery (Kang, James and Alexandris, 2002).

The quality of service is the key contributor to the success of service organisations. Researchers usually divide service quality into technical and functional quality. Technical quality refers to the quality of the service product whereas functional quality refers to how the service product is delivered (Sohail 2003 and Wong 2002).

Kang and James (2004) postulate that patients perceive the quality of service as having three dimensions: functional, technical and image. The image dimension is equated to corporate quality that refers to the image

attributed to a service provider by its current and potential customers as well as by the general public. The technical quality in health care is defined primarily on the basis of the technical accuracy of the diagnosis and procedures. Several techniques for measuring technical quality are available and in use in health care organisations, but the information is not generally available to the public. The functional element of service quality relates to the manner of delivery of the health-care services (Sohail, 2003). Patients tend to rely on the functional element when measuring service quality rather than the technical element due to the fact that it is a challenge to measure technical element, unless the patients are also in the medical field (Wong, 2002). Kang and James propose that service quality may be evaluated based on the functional quality dimensions characterized by:

- Reliability;
- Responsiveness;
- Assurance;
- Empathy; and,
- Tangibles.

### **2.3 Enterprise Risk Management**

Enterprise risk management (ERM) is a process, caused by an entity's board of directors, management, and other personnel, applied in a strategy setting across the enterprise, which is designed to identify potential events that may affect the entity, manage risk to be within that entity's risk appetite, in order to provide reasonable assurance on the achievement of entity

objectives (The Committee of Sponsoring Organizations of the Treadway Commission, 2004). ERM approach ensures that an organisation adopts a holistic approach in strategy formulation and decision-making processes, and this engages the organisation across silos and levels including management and the board (Giniat and Saporito, 2007).

Risk management is about developing tools to reduce the likelihood of a negative event happening or reducing the impact on the organisation (Cohen and Kunreuther, 2007). Such tools include risk communication strategies, financial reward and penalties, insurance, rules and regulations, performance standards, legal liability and assurance providers (Cohen and Kunreuther, 2007). Risk management is a tool that supports an organisation's prospects of success by getting the process and/or formula right the first time and minimising negative events (Office of Accountant General, 2008).

One of the major risks facing healthcare institutions is a damaged reputation which reflects these institutions' stakeholders' perceptions about the quality of patient care and their ability to manage their resources (Giniat and Saporito, 2007). Many of the negative events that have dented the reputation of the public healthcare institutions could have been avoided by more effective risk management and more transparent reporting (Giniat and Saporito, 2007).



These negative events are referred to as operations risks, which are the risks associated with the methods of operation and standards of care that are used in existing facilities (Cohen and Kunreuther, 2007). A clear understanding of the risks which pose the greatest threat to the organisation and the nature and cost of mitigating controls helps rationalize resource allocation and could actually help save some money over time (Giniat and Saporito, 2007).

The banking industry has shifted its attention towards the risk management of operational risk because the latter can have a devastating impact on operations of banks. There is compelling background for the banking industry's shift in this way. The Barings Bank's insolvency and the Allied Irish Bank's loss of \$750m due to rogue trading, the \$2bn settlement of class action lawsuit against Prudential Insurance due to fraudulent sales practices over 13 years and the September 11, 2001 terrorist attacks on the United States of America are all part of this context (Murmah and Oktem, 2002).

In response, the regulators included the management of operational risk in their consultative document "The New Basel Capital Accord" (2001) which sets out the guidelines under its entire three pillars namely:

- Pillar 1: Minimum Capital Requirements;
- Pillar 2: Supervisory Review Process; and,
- Pillar 3: Market Discipline.

The Basel Committee revised their position on operational risk management where it reaffirmed its position on capital requirements for operational risk. However, it acknowledged the importance of Advanced Measurement Approaches under which banks would be allowed to determine capital requirements based on their internal operational risk assessment subject to qualitative and quantitative standards set by the Basel Committee (Murmann and Oktem, 2002).

In managing operational risk, risk managers usually have a large set of methods available out of which an optimal combination should be selected with the aim of maximizing business value. Risk prevention and reduction seem to be the most appropriate management device for operational risk. Therefore, the implementation of such internal management mechanisms is powerful especially in situations where the underlying risk patterns have not been thoroughly understood (Murmann and Oktem, 2002).

In their attempt to manage risks, most organisations differentiate between three main types:

- risks which must be managed, which are those risks where regulatory bodies and/or government demand this of the organisation in a particular field;
- risks of internal and external fraud and theft inherent in any organisation;

- Risks which are neither covered by the dictates of compliance with a management method prescribed by an external body nor defined by a clear reason for the organisation to try and manage.

These third type of risks are optional risks where the organisation can chose whether to manage or not to manage, and to what degree. It is these kinds of risk that the risk management models target (Williams, Bertsch, Dale, van der Wiele, van Iwaarden, Smith and Visser, 2006).

In order to manage these optional risks, the models suggest that three steps are necessary. These are:

- *Risk recognition* – this is the phase of understanding what is at risk and what events could potentially cause harm or benefit. This phase involves context establishment, identifies and defines what is at risk, which covers the identification within the established context of uncertain events that could cause harm or benefit, their associated causes and their potential consequences.
- *Risk prioritisation* – this is the phase of understanding the nature and level of the risks, so that they can be managed in an appropriate manner. This phase starts with risks analysis, which is based on likelihood which, in turn, depends on the probability of occurrence and frequency of activity. Risk analysis is also based on consequence which can be measured in many ways such as effects on results or on the enablers of

results. The other component of risk prioritisation is risk evaluation against an appropriate risk-acceptance criterion to give ranking such as “low” (tolerable), “medium” (low as reasonably practicable) and “high” (intolerable). Risk assessment is then made and can be quantitative or qualitative using techniques such as a facilitated workshop. Once the risk assessment has been completed, the risk profile of the organisation can be determined, which is a representation of the risk exposure of the organisation that ideally equates to the risk capacity (the maximum resource the organisation is willing to put at risk) and risk appetite (the amount of risk the organisation is willing to take).

- *Risk management* - this is the phase of managing the risks which have been identified and prioritised; this can be categorised in different ways. The simplest form is the “four Ts” model that sets out ways of dealing with unacceptable risks:
  - *Terminate* - cease activities related to the risk;
  - *Treat* – add control measures or contingency plans to manage the likelihood and consequence of events;
  - *Tolerate* – accept the risk; and,
  - *Transfer* – move the impact of risks to another organisation

These are the review and learning and improvement stages. It is imperative that planned risk management activities are implemented as intended and that the lessons learned are incorporated in order to drive further improvement (Williams *et al*, 2006).

## 2.4 Risk Management and Quality Management

Risk management addresses many different categories of risk but most definitions are based upon the Operations Management type transformation model, such as “risk is the potential for realising unwanted consequences from causal events”. Therefore, if operational risk is modelled as a transformation process, any generic discussion of risk control needs to consider ex ante, in-process and ex post mechanism. Ex ante mechanisms refer to preventive controls which are similar to quality management notions of “right first time” and error-proofing. In-process mechanisms refer to situations where prevention is not feasible, controls can also be sought to mitigate negative consequences, just like traditional quality management practices isolate rather than prevent errors. The ex post mechanism refers to situations where risk controls must be developed to manage negative consequences, just as service quality actively considers recovery from quality failure (Lewis, 2003).

For many organisations, operational risk is the most common form of risk and it is often regarded as the most dangerous. Yet, it is precisely this kind of risk that we feel quality management experience and expertise is best equipped to handle. Operational risk is very common since it is “the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events”. It is therefore very broad as it covers

clients, products and business practices, business disruptions and system failure, and execution as well as fraud (Williams *et al*, 2006).

The key aspect of risk management is the prioritisation of risks on the basis of their likelihood of occurrence and impact. Disruptions and delays due to inadequate quality, are major operational risks which can be managed firstly, through careful prevention to avoid their occurrence, and secondly through very fast emergency reactions in the event of mistakes happening (Williams *et al*, 2006).

Williams *et al* (2006) suggest that four traits can ensure effective response to a crisis:

- Fluidity in the organisational structure which empowers the personnel involved, whilst enabling rapid and accurate information flow from the response teams to the coordinating centre;
- Communication is key as it provides opportunities for clarification and making sense of what is happening and deciding on the best risk mitigation strategies;
- A culture of willingness to learn from mistakes and to exchange best practice; and,
- Trust between parties within the organisation.

Organisations are fairly good at managing known risks, and these are the areas that the regulators and most risk management models cover. It is the risks that the organisations do not know that they are taking that cause most of the problems. The greater uncertainty in the contemporary world and the

pace of change is seeing this area is increase. Therefore, organisations need to be flexible and resilient (Williams *et al*, 2006).

## 2.5 Quality Management Managerial Approaches

A once off improvement gives the organisation a relative advantage but does not guarantee sustainability; continuous improvement is essential for further value enhancement of an organisation. A process of continuous improvement offers relative advantage, so organisations need to learn to do more with the same resources. Organisational performance can be enhanced by improving its value drivers using appropriate managerial approaches that characterize focused management. Value drivers are the performance variables whose improvement will significantly increase the value of the organisation or improve its performance measures (Ronen and Pliskin, 2006).

Ronen and Pliskin (2006) highlight the following managerial approaches as characteristics of focused management:

- Constraint management;
- Approaches to reduce response time;
- New approaches for measurement and control;
- Approaches for formulating an operational business strategy; and,
- Methods for quality improvement and process control.

Management needs to focus on developing service delivery systems that are flexible and responsive to customer needs, while ensuring operational efficiency and strategic effectiveness (Dorsch, Yasin and Czurchry, 1997). The application of Root Cause Analysis in the service delivery perspective incorporates the functionality of management feedback, and the service delivery outputs are monitored through data gathered through customer surveys (Dorsch, Yasin and Czurchry, 1997).

Therefore, it is important to communicate an organizational commitment to service quality to all personnel in all business units that contribute to the value-adding chain (Dorsch, Yasin Czurchry, 1997). This also supports the underlying principles of ERM as outlined above.

Hazilah and Manaf (2005) describe quality management as both a philosophy and as guiding principles that represent the foundation of a continuously improving organization. It is the total, company-wide effort that is achieved through the full involvement of the workforce with a focus on continuous improvement that organisations use to achieve customer satisfaction. This description is in line with the explanation of Enterprise Risk Management but the former's focus is on quality management, so quality management can be viewed as the risk management strategy of dealing with quality risks facing the organisation.

In Malaysia, most organisations have started to consider quality as an essential part of their business plan in order to meet the challenges of the



new global environment (Samat, Ramayah and Saad, 2006). Samat, Ramayah and Saad (2006) describe the quality management similar to Hazilah and Manaf (2005) by further defining the company-wide effort as the establishment of a management system and corporate culture that will result in high quality products and services.

Their quality management practices are based on the Total Quality Management (TQM) principles, which highlights that the successful implementation of TQM will result in improved employee involvement, improved communication, increased productivity, improved quality and fewer reworks, improved customer satisfaction, reduced cost of poor quality and improved competitive advantage (Samat, Ramayah and Saad, 2006).

There are seven critical success factors for TQM implementation in the service industry which are based on the most common attributes extracted from 76 studies:

- Management support and commitment;
- Employee involvement;
- Employee empowerment;
- Information and communication;
- Training and communication;
- Customer focus; and,
- Continuous improvement.

Establishing a motivated, customer-oriented management philosophy and practice ensures that internal service quality levels will become more favourable. Employees with organisational knowledge and skills are important in delivering service quality; high levels of employee morale and satisfaction depend on employee empowerment and involvement (Samat, Ramayah and Saad, 2006).

The modern approach to quality management and process control states that a person doing a job is also responsible for its quality. This requires setting initial condition and an appropriate work environment wherein,

- What is considered a “good” product or service must be clearly defined;
- Workers and managers must be given the tools needed to evaluate the quality of a service or product; and,
- Rules and procedures that will clearly define what has to be done when a failure or a defective product or service is detected must be specified (Ronen and Pliskin, 2006).

Ronen and Pliskin (2006) also mention the “ten-times rule”, which states that the later the stage that a problem is detected, fixing it will be ten times more expensive. Therefore, it is better to prevent a risk from materialising rather than waiting until it happens and then implementing corrective measures, as waiting means that resources are applied twice (through the initial process and the corrective process) to achieve the desired results instead of getting it right the first time.

## 2.6 Conclusion

The literature suggests that there are certain dimensions that can influence the *quality of service* that is provided to customers and these can also apply in public healthcare environment. Therefore, the conditions of public healthcare in South Africa warrants that all avenues be explored that can assist in enhancing the *quality of service* provided.

### CHAPTER 3: RESEARCH HYPOTHESES

The literature review conducted in chapter 2, highlights that risk management practices that are successfully implemented result in improved performance of the organisation and improved quality of the product or service provided. The study investigates the relationship between risk management practices and *service quality*, where the risk management practices are the independent variable and are positively related to the *service quality*. The study also measures *service quality* from the patient's point of view, by comparing their perceptions against their expectations.

The specific research hypotheses that will be used are the combination the risk management and *service quality* measures:

**Hypothesis 1:** The extent of *management support and commitment* is positively related to *service quality*

**Hypothesis 2:** The extent of *employee involvement* is positively related to *service quality*

**Hypothesis 3:** The extent of *employee involvement* is positively related to *service quality*

**Hypothesis 4:** The extent of *information and communication* is positively related to *service quality*

**Hypothesis 5:** The extent of *training and education* is positively related to *service quality*

**Hypothesis 6:** The extent of *customer focus* is positively related to service quality

**Hypothesis 7:** The extent of *continuous improvement* is positively related to *service quality*

**Hypothesis 8:** Patients are satisfied with the quality of service received

## CHAPTER 4: REASEARCH METHODOLOGY

### 4.1 Research Design

According to Rushin (2006) descriptive statistics refer to the description and general characteristics of the data that was obtained for a group of individual units of analysis. The study was conducted to describe the characteristics of the Gauteng public hospitals in relation to *service quality* therefore, the research was descriptive in nature. The research attempts to establish if a relationship exists between *service quality* and risk management practices in outpatient departments, therefore the quantitative approach was the appropriate approach to use. The study also evaluated the *quality of service* provided for patients by the outpatient departments in public hospitals.

### 4.2 Method of Data Collection

The data for this study was collected using self-administered questionnaires survey conducted on outpatients and hospital staff in public hospitals within Gauteng, which is considered an appropriate tool when requiring a responded to reflect on their experiences and perceptions.

The questionnaires were distributed to the patients and hospital staff at the outpatient departments of the various hospitals by myself and were collected immediately after they were completed directly from the respondents. The patients selected were those that were in queue, whether for collecting a file or

waiting for the doctor or for collecting prescriptions, in order not to interfere with the service delivery processes. The hospital staff that completed the questionnaire were those on duty at the time of the visit.

### 4.3 Questionnaires

The questionnaires were obtained from studies that were conducted in Malaysia and Australia covering a similar topic. The questionnaire to measure the gap between customer expectations and to their actual perceptions, based on their experience, about the *quality of service* in the outpatients departments of hospitals was adapted from the questionnaire used by Wong (2002) on his study of “*Service quality* measurement in a medical imaging department”.

The questionnaire used to measure the extent of risk management practices in the outpatient department and to measure the hospital staff’s perceived *service quality*, both functional and technical quality, in their department, was obtained from Mr T. Ramayah as the corresponding author through e-mail. The questionnaire was used in the study “TQM practices, *service quality* and market orientation” and was adapted for this specific study.

In selecting the questionnaire, the hectic working environment of the respondents was taken into account, and in the circumstances selected questionnaires with closed questions in order to boost the response rate. Forty five (45) items relating to risk management practices, for hospital staff were

presented in a Likert scale format with responses ranging from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire also requested demographic information about the patients as well as the hospital staff.

## **4.4 Sampling Method**

### **4.4.1 Target population**

The target population are the Gauteng public hospitals. The focus was on patients and hospital staff involved in the service delivery process in an outpatient department in public hospitals. This covered the different categories of public hospitals, that is central, regional and district hospitals.

### **4.4.2 The sampling technique**

Judgement sampling was used because the sample only focussed at outpatient department personnel and patients and not the entire hospital. Convenience sampling was applied as the respondents selected focussed on the personnel that were available and combined with stratified sampling that will ensure that all the levels of the hospital staff are represented on the sample.

Stratified sampling was be used to select hospitals in Gauteng based on their classification such as Central hospitals, Regional hospitals and District



hospitals to ensure that all the classifications are sampled, in ensure that the sample is representative of the population of public hospitals in the Gauteng Province.

Convenience sampling was used to select the respondents for the patients based on the people that were present in the outpatient department.

#### **4.5 Method of Data Analysis**

The data analysis was in the form of statistical analysis to indicate if there is any correlation between the risk management practices and service delivery in outpatient departments in public hospitals. A correlation analysis on the risk management practices and *service quality* was performed in which the *service quality* will be the dependent variable and the risk management practices as the independent variables. A test of independence between the service quality and the risk management dimensions was also used to determine the extent of the influence of these variables on each other.

#### **4.6 RESEARCH PROCESS**

##### **4.6.1 Ethical Issues**

Consent was obtained from the Gauteng Provincial Department of Health to conduct research in the respective hospitals. The consent was in writing and was presented to the Chief Executive Officers of the various hospitals. The patients and the hospital staff were made aware that the participation was

entirely voluntary and the questionnaire informed the patient of the purpose of the study.

The questionnaire did not request for any personal information therefore it provided the participants with assurance on anonymity and confidentiality of their responses.

#### **4.6.2 Envisaged limitations of the study**

- The sample chosen will be based on public hospitals in Gauteng only, therefore the results cannot be inferred to all public hospitals in South Africa.
- The results of the survey will reflect the perceptions and experiences of the personnel and patients that will be at the hospital during the visit.

## **CHAPTER 5: PRESENTATION OF RESULTS**

### **5.1 INTRODUCTION TO THE RESULTS**

This chapter will outline the results of the study conducted in order to assess the impact of risk management practices in public hospitals on the *quality of service* provided.

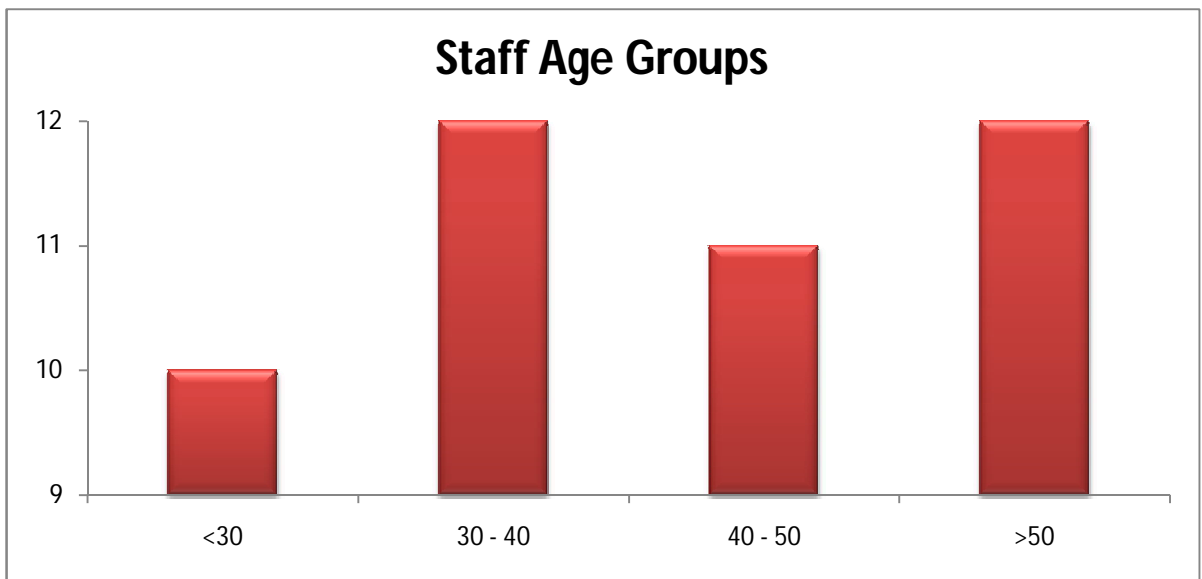
The questionnaires were completed by hospital staff and patients from the outpatient departments in public hospitals. The sample included a central hospital, a district hospital and a regional hospital. From the data gathered, the following descriptive statistics of the sample can be presented:

### **5.2 SUMMARY OF THE DESCRIPTIVE DATA OF THE HOSPITAL STAFF RESPONDENTS**

#### **5.2.1 Age of the sampled hospitals staff**

The majority of the respondents came from the above 50 years old age group and the age group 31 – 40 years and each accounting for 27% of the sample, followed by the 41 – 50 years old age group which accounts for 24% and the age group that is least represented on the sample is below 30 years age group, accounting for 22% of the sample, as presented on Figure 1 below.

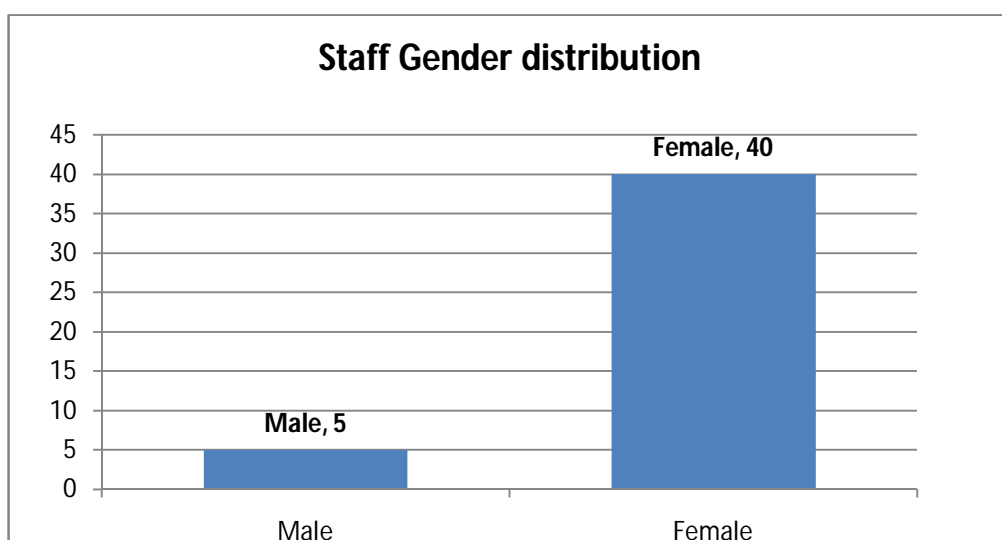
**Figure 1:** Categories of ages of hospital staff respondents



### 5.2.2 Gender of respondents

The sample shows that 89% of the respondents were female and the remainder of the sample were male, representing 11% of the sample as presented on Figure 2 below.

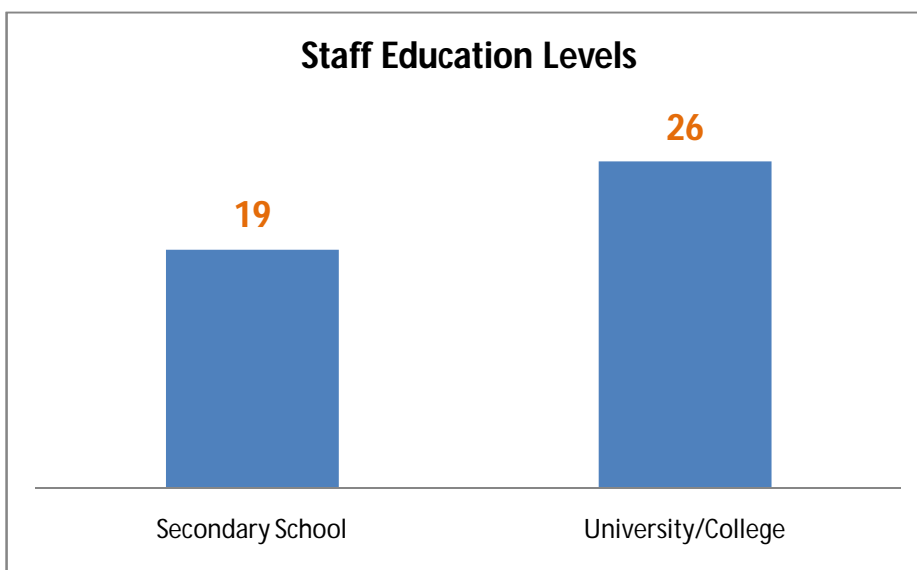
**Figure 2:** Gender of the respondents



### 5.2.3 Education level of the respondents

The majority of the respondents have a university or college education and that represents 58% of the sample; the rest of the hospital respondents have secondary school education which represents 42% of the sample as presented on Figure 3 below.

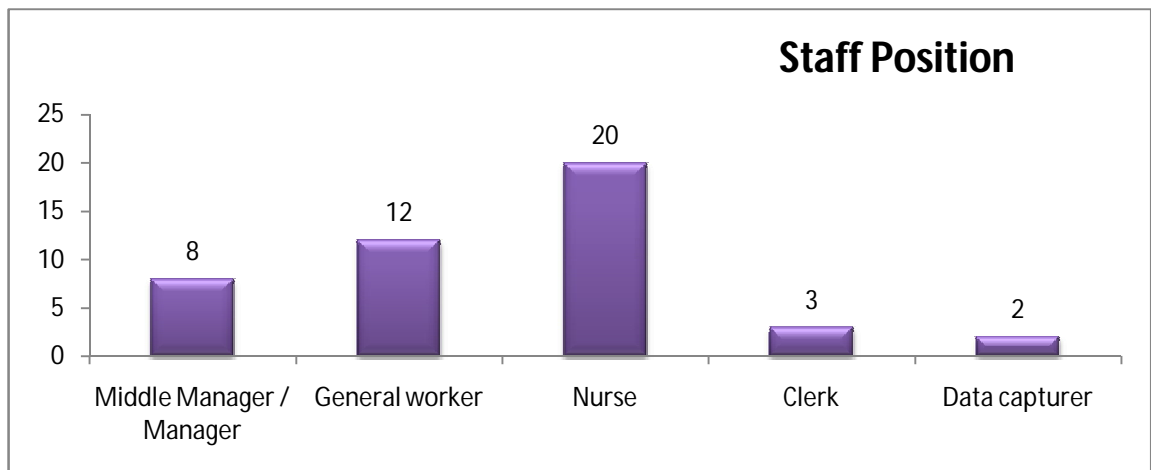
**Figure 3:** Education level of respondents



### 5.2.4 Position of respondents within the organisation

Most of the respondents are nurses who represent 44% of the sample, followed by the general workers accounting for 27% of the sample, after that the middle managers at 18% and the least represented level are the clerks at 7% and the data captures representing 4% of the sample, as presented on Figure 4 below.

**Figure 4:** Position of respondents within the organisation



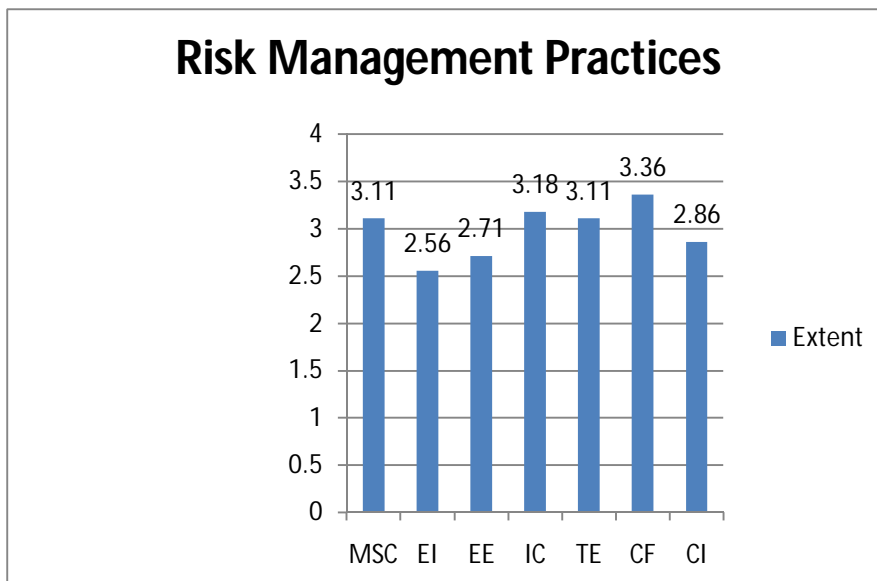
### 5.2.5 Extent of risk management practices

The hospital staffs consider the *customer focus* as the risk management practice that is mostly implemented in the OPDs of public hospitals followed by *information and communication* and the risk management practice that is considered to be the least implemented is *employee involvement*, as presented in Table 1 and Figure 5 below.

**Table 1:** Extent of risk management practices

Risk management dimensions	Mean	Std deviation	Rank order
Customer focus	3.36	1.06	1
Information and communication	3.18	1.24	2
Training and education	3.11	1.25	3
Management commitment & support	3.11	1.31	3
Continuous improvement	2.86	1.16	5
Employee empowerment	2.71	1.29	6
Employee involvement	2.56	1.18	7

**Figure 5:** Extent of risk management practices



**MSC** – Management support and commitment

**EI** - Employee involvement

**EE** – Employee empowerment

**IC** – Information and communication

**TE** – Training and education

**CF** – Customer focus

**CI** – Continuous improvement

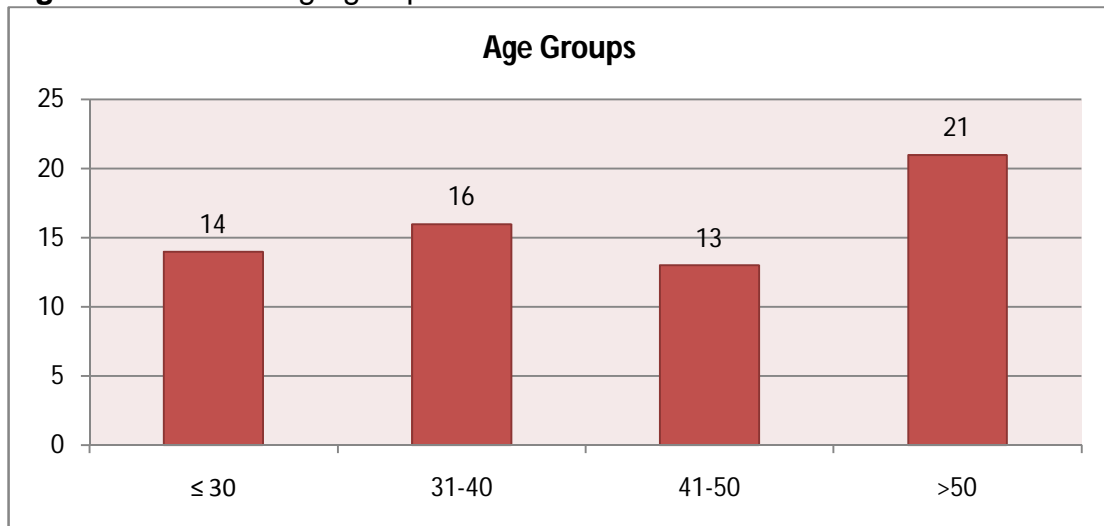
### 5.3 SUMMARY OF THE DESCRIPTIVE DATA OF THE PATIENT RESPONDENTS

#### 5.3.1 Age of the sampled patients

The majority of the respondents came from the above 50 years old age group accounting for 33% of the sample, followed by the 31 - 40 years old age group which accounts for 25%, followed by the 30 years old below age group which

accounts for 22% of the sample and the age group that is least represented on the sample is the 41 - 50 years age group, accounting for 20% of the sample.

**Figure 6:** Patients' age groups

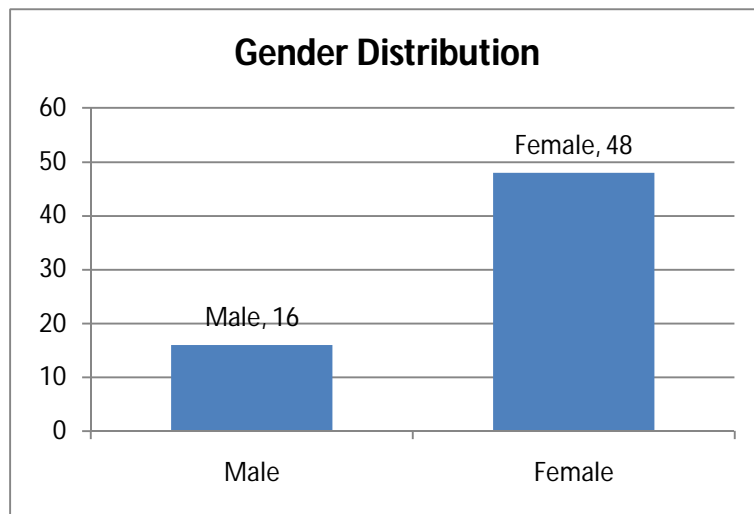


### 5.3.2 Gender of respondents

The sample shows that 75% of the respondents were female and the remainder of the sample were male, representing 25% of the sample as presented on Figure 7 below.



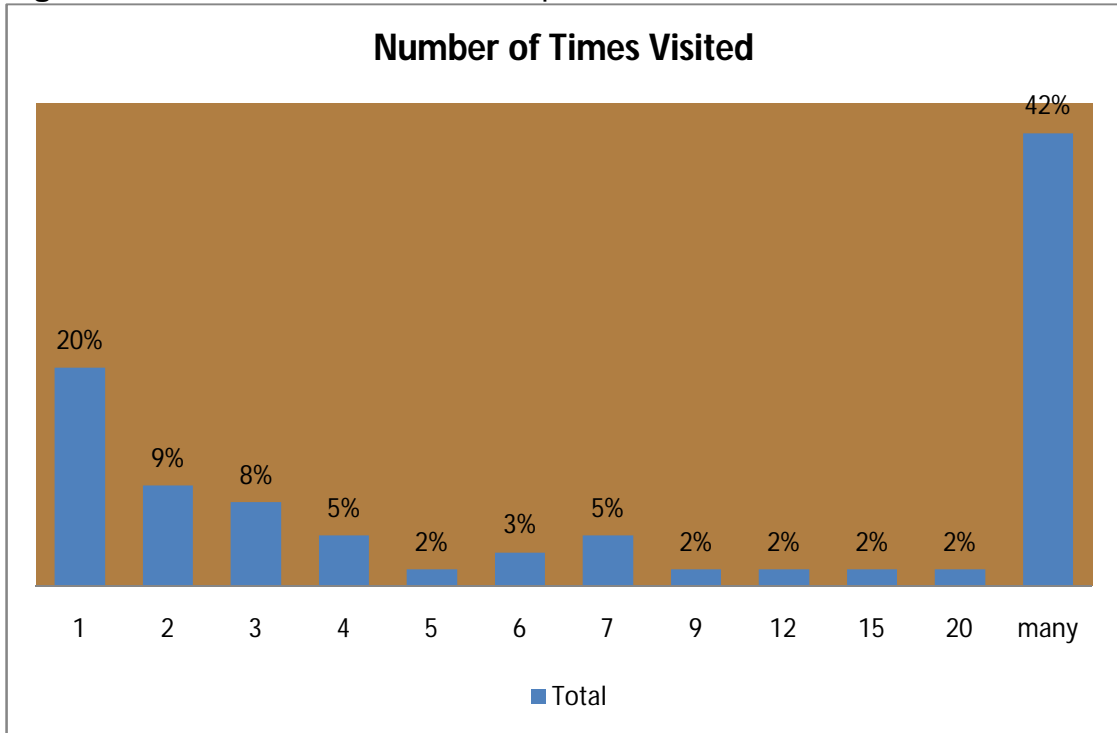
**Figure 7:** Gender of respondents



### 5.3.3 Number of times visited

Most of the respondents of the sample had visited the outpatient department of the hospital so many times before that they could not remember as they started visiting the hospital when they were young. This accounted for 42% of the sample and the remainder of the sample were first time visitors to the outpatient departments of the specific hospitals, as presented on Figure 8.

**Figure 8:** Number of times visited hospital



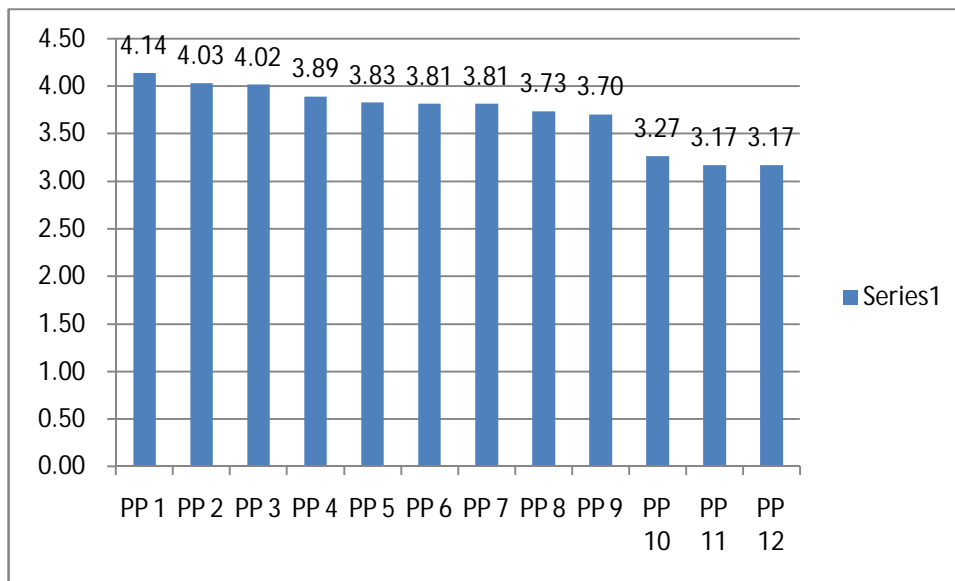
#### 5.3.4 Service quality perceptions by patients

The patients have rated the *neatness of the staff* highest amongst all the components of service and rated the *provision of service on time* and *staff giving prompt service to the patients* the lowest, as presented in Table 2, Figure 9, Table 3 and Figure 10 below.

**Table 2:** *Service quality* perceptions by patients

<b>Service quality dimensions</b>	<b>Mean</b>	<b>Std deviation</b>	<b>Rank</b>
The staff appear neat	4.14	1.19	1
The patient file provides sufficient information to you	4.03	1.27	2
The staff is knowledgeable	4.02	1.15	3
The department performs the study right the first time	3.89	1.18	4
The staff instils confidence in patients	3.83	1.2	5
The staff is courteous	3.81	1.14	6
The staff gave you adequate attention	3.81	1.33	6
The department has opening hours convenient to patients	3.73	1.52	8
The staff is always willing to help you	3.70	1.38	9
The facilities in the department are visually appealing	3.27	1.37	10
The department provides its services on time	3.17	1.40	11
The staff gives you prompt service	3.17	1.45	11

**Figure 9:** Service quality perceptions by patients



**PP 1** – The staff appear neat

**PP 2** – The patient file provides sufficient information to you

**PP 3** – The staff is knowledgeable

**PP 4** – The department performs the study right the first time

**PP 5** – The staff instils confidence in patients

**PP 6** – The staff is courteous

**PP 7** – The staff gave you adequate attention

**PP 8** - The department has opening hours convenient to patients

**PP 9** – The staff is always willing to help you

**PP 10** – The facilities in the department are visually appealing

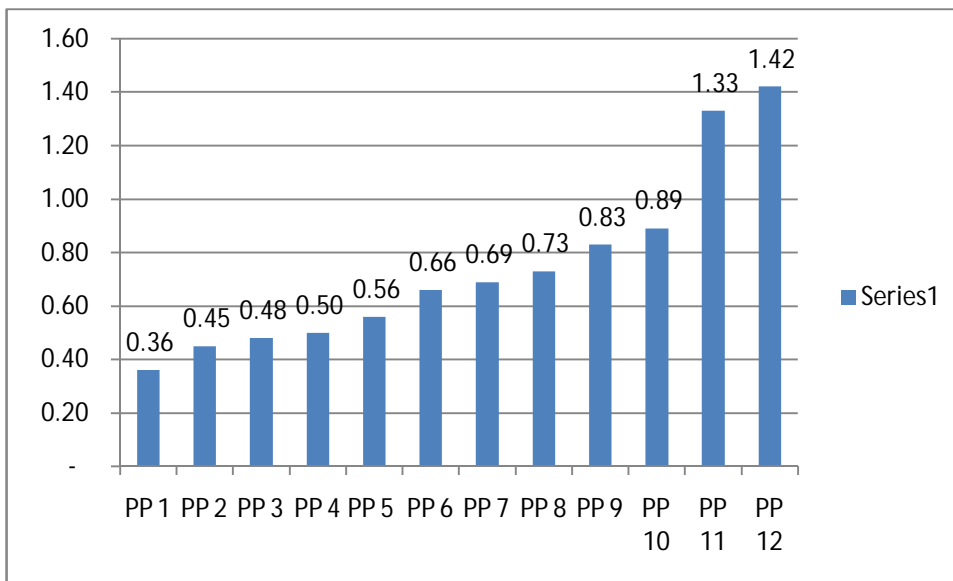
**PP 11** – The department provides its services on time

**PP 12** – The staff gives you prompt service

**Table 3:** Expectations minus perception scores by patients

<b>Service quality dimensions</b>	<b>Expectation - Perceptions</b>	<b>Rank</b>
The staff appear neat	0.36	1
The department performs the study right the first time	0.45	2
The staff is courteous	0.48	3
The staff is knowledgeable	0.50	4
The patient file provides sufficient information to you	0.56	5
The staff gave you adequate attention	0.66	6
The department has opening hours convenient to patients	0.69	7
The staff instils confidence in patients	0.73	8
The staff is always willing to help you	0.83	9
The facilities in the department are visually appealing	0.89	10
The department provides its services on time	1.33	11
The staff gives you prompt service	1.42	12

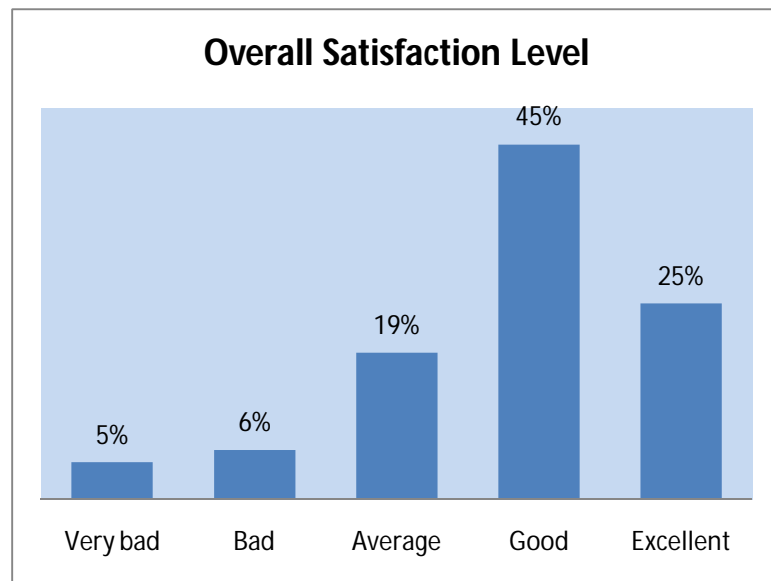
**Figure 10:** Expectations minus perceptions scores by patients



#### 5.3.4 The extent of *service quality*

Some of the patient respondents, accounting for 45% of the sample, indicated a good *service quality* with 25% of the sample indicating an excellent *service quality*, with 19% scoring an average level of satisfaction, and 6% indicating bad *service quality* and 5% indicating very bad *service quality* and the mean overall rating was 4 with the standard deviation of 1.04, indicating that patients' experience overall good satisfaction level as presented on Figure 11.

**Figure 11:** Extent of *service quality*



## 5.4 INFERENCE STATISTICS

### 5.4.1 PEARSON CORRELATION TEST

The Pearson correlation test is one of the most widely used measures of association to investigate the relationships between variables (Kriel, 2008). The Pearson correlation coefficient ( $r$ ) values start from -1 to +1 and if it is (-) it means a negative correlation or alternatively stated when one variable is high; then, the other variable will be low.

A Pearson correlation coefficient that is (+) means that there is a positive relationship between the variables or that when one variable is high; then, the other variable will also go high. A Pearson correlation coefficient that is zero means that there is no correlation between the variables. Therefore, the strength of the relationship in the correlation test can be illustrated as follows:

$r = 0.10$  to  $0.29$  or  $-0.10$  to  $-0.29$  indicates a small (moderate) correlation

$r = 0.30$  to  $0.49$  or  $-0.30$  to  $-0.49$  indicates a medium correlation

$r = 0.50$  to  $1.0$  or  $-0.50$  to  $-1.0$  indicates a large (strong) correlation (Kriel, 2008 and Albright, Winston and Zappe, 2006).

#### 5.4.1.1 Pearson Correlation between management support and commitment and service quality

*Top-level managers that view quality as being more important than cost had a significant and positive effect on service quality and this also had the most significant effect on the entire management support and commitment dimension. The variable that had the least effect on service quality is the organisation emphasising on long-term plan to improve quality as presented by the Pearson correlation coefficient values (r) in Table 4 and Table 5 below.*

**Table 4:** Correlation between *management support and commitment* and *service quality*

	SERVICE QUALITY						
Management support and commitment	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
MS 1	-0.06	0.15	0.09	-0.05	0.20	0.29	0.29
MS 2	0.40	0.44	0.45	0.41	0.37	0.14	0.37
MS 3	0.19	0.28	0.29	0.15	0.39	0.28	0.26
MS 4	0.28	0.33	0.34	0.49	0.51	0.58	0.37
MS 5	0.23	0.36	0.22	0.33	0.46	0.45	0.36



**MS 1** – Our organization puts emphasis on long-term plan to improve quality

**MS 2** – Our organization sets clear quality goals identified by top-level managers

**MS 3** – At organization meetings, top-level managers often discuss the importance of quality

**MS 4** - Top-level managers view quality as being more important than cost

**MS 5** – Top-level managers depend heavily on quality performance to evaluate employees

**SQ 1** – Courtesy and friendliness

**SQ 2** – Competence and ability to explain

**SQ 3** – Competence and ability to explain services and policies

**SQ 4** – Trustworthiness and willingness to help

**SQ 5** – Availability to answer the customer’s questions

**SQ 6** – Responsiveness to the customer’s request

**SQ 7** – Efficiency in handling complaints

**Table 5:** Correlation between *management support and commitment* and *service quality*

Management support and commitment	SERVICE QUALITY				
	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
MS 1	0.15	0.36	0.36	0.24	0.29
MS 2	0.35	0.41	0.46	0.39	0.14
MS 3	0.20	0.44	0.43	0.31	0.28
MS 4	0.59	0.61	0.57	0.50	0.58
MS 5	0.45	0.57	0.48	0.40	0.45

**SQ 8** – Fast account/ bill information

**SQ 9** – Confidentiality of information transfer

**SQ 10** – Ease of handling customers’ complaints

**SQ 11** – Ease and frequency of contact

**SQ 12** – Attentiveness to customers’ complaints

#### 5.4.1.2 Pearson Correlation between employee involvement and service quality

*Using the ability to work in teams as criterion in employee selection variable had a significant and positive effect on the service quality. The implementation of most of the employees’ suggestions had the least effect on the quality of service as presented on the Table 6 and Table 7 below.*

**Table 6:** Correlation between *employee involvement* and *service quality*

	SERVICE QUALITY						
Employee involvement	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
EI 1	0.28	0.15	0.25	0.35	0.14	0.21	0.28
EI 2	0.07	0.13	0.15	0.35	0.13	0.10	0.30
EI 3	0.13	0.25	0.25	0.14	0.22	0.28	0.15
EI 4	0.18	0.45	0.55	0.35	0.55	0.39	0.33

**EI 1** – All employees’ suggestions are taken into consideration

**EI 2** – Most employees’ suggestions are implemented

**EI 3** – We often work in teams, with members from different departments

**EI 4** – We use the ability to work in teams as a criterion in employee selection

Table 7: Correlation between *employee involvement* and *service quality*

	SERVICE QUALITY				
Employee involvement	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
EI 1	0.14	0.26	0.30	0.23	0.16
EI 2	0.08	0.40	0.28	0.28	0.20
EI 3	0.27	0.39	0.31	0.06	0.09
EI 4	0.27	0.58	0.50	0.35	0.45

#### 5.4.1.3 Pearson Correlation between the employee empowerment and service quality

*Employee empowerment* as a risk management practice seems to have had a positive and significant effect on the *courtesy and friendliness* component of *service quality*. *Top management pushing decision making to the lowest practical level* had the least effective result on *service quality*, and sometimes even had a negative effect even though it is minimal as presented in Table 8 and Table 9.

**Table 8:** Correlation between *employee empowerment* and *service quality*

Employee empowerment	SERVICE QUALITY						
	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
EE 1	0.37	0.24	0.24	0.20	0.24	-0.05	0.27
EE 2	0.52	0.41	0.37	0.42	0.41	0.27	0.31
EE 3	0.32	0.24	0.30	0.38	0.40	0.26	0.21
EE 4	-0.05	0.00	-0.09	-0.04	0.10	0.09	0.11

**EE 1** – Employees are encouraged to take their own initiatives when dealing with customers’ complaints

**EE 2** – Problem solving ability is a criterion in selecting employees

**EE 3** – Employees are given the resources necessary to deal with customer complaints

**EE 4** – Top management pushes decision making to the lowest practical level

**Table 9:** Correlation between *employee empowerment* and *service quality*

Employee empowerment	SERVICE QUALITY				
	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
EE 1	-0.06	0.14	0.22	0.20	0.32
EE 2	0.46	0.35	0.39	0.36	0.41
EE 3	0.28	0.47	0.40	0.43	0.28
EE 4	-0.04	0.14	0.10	-0.06	0.19

#### 5.4.1.4 Pearson Correlation between information and communication and service quality

*Good communication between departments and the top-down and bottom-up communication had a positive and significant effect on service quality, but the collection of data and information to support performance improvement had the least effect on service quality as presented in Table 10 and Table 11.*

**Table 10:** Correlation between *information and communication* and *service quality*

Information and communication	SERVICE QUALITY						
	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
IC 1	0.16	0.28	0.20	0.20	0.27	0.40	0.26
IC 2	0.02	0.11	0.05	0.03	0.28	0.43	0.22
IC 3	0.06	0.30	0.23	0.21	0.44	0.44	0.39
IC 4	0.12	0.21	0.30	0.25	0.35	0.40	0.40

**IC 1** – We collect data and information to support performance improvement efforts

**IC 2**–We have forma procedures to ensure reliability, consistency and improvement of quality data gathering cycle

**IC 3** – We have good communication between different departments

**IC 4** – We have an effective top-down and bottom-up communication

**Table 11:** Correlation between *information and communication* and *service quality*

Information and communication	SERVICE QUALITY				
	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
IC 1	0.52	0.39	0.32	0.31	0.40
IC 2	0.32	0.35	0.38	0.20	0.49
IC 3	0.39	0.56	0.59	0.38	0.51
IC 4	0.37	0.47	0.56	0.41	0.37

#### 5.4.1.5 Pearson correlation between training and education and service quality

The provision of training in problem identification and solving skills seem to have the most significant and positive effect on *service quality* under the *training and education* construct, compared to the provision of training in quality improvement skills which has the least positive effect on *service quality* as presented in Table 12 and Table 13 below.

**Table 12:** Correlation between *training and education* and *service quality*

Training and education	SERVICE QUALITY						
	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
TE 1	0.41	0.47	0.49	0.46	0.39	0.44	0.49
TE 2	0.13	0.33	0.36	0.43	0.41	0.57	0.56
TE 3	-0.01	0.26	0.34	0.25	0.32	0.55	0.44
TE 4	0.36	0.54	0.45	0.47	0.50	0.26	0.50
TE 5	0.26	0.21	0.24	0.29	0.24	0.24	0.28
TE 6	0.33	0.36	0.40	0.42	0.30	0.31	0.43

**TE 1** – Quality-related training is given to managers, supervisors and employees

**TE 2** – Training in total quality concept is provided in our organization

**TE 3** – Training in interactive skills is a must in our organization

**TE 4** – Our organization provides training in problem identification and solving

**TE 5** – Our organization provides training in quality improvement skills

**TE 6** – Our program on quality awareness building among employees is ongoing

**Table 13:** Correlation between *training and education* and *service quality*

	SERVICE QUALITY				
Training and education	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
TE 1	0.47	0.34	0.51	0.36	0.37
TE 2	0.33	0.37	0.55	0.42	0.51
TE 3	0.26	0.54	0.40	0.47	0.42
TE 4	0.48	0.55	0.53	0.47	0.38
TE 5	0.32	0.39	0.45	0.37	0.22
TE 6	0.47	0.40	0.50	0.41	0.36

#### 5.4.1.6 Pearson Correlation between customer focus and service quality

*Floor managers being aware of customer satisfaction levels and being in close contact with the customers* had a positive and significant effect on *service quality* and *measuring quality based on the customers' requirements* had the least positive effect on *service quality* as presented in Table 14 and Table 15.

**Table 14:** Correlation between *customer focus* and *service quality*

Customer focus	SERVICE QUALITY						
	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
CF 1	-0.01	0.18	0.11	0.24	0.40	0.49	0.44
CF 2	-0.04	0.17	0.20	0.14	0.29	0.41	0.44
CF 3	-0.04	0.02	-0.00	0.21	0.34	0.43	0.27
CF 4	0.30	0.30	0.38	0.37	0.38	0.52	0.59
CF 5	-0.04	0.38	0.34	0.26	0.55	0.43	0.46

**CF 1** – A summary of customer complaints is given to the floor manager

**CF 2** – Customers’ feedback is used to determine their requirements

**CF 3** – Customers’ requirements is used as the basis for measuring quality

**CF 4** – Floor managers are aware of customer satisfaction level

**CF 5** – We are frequently in close contact with our customers

**Table 15:** Correlation between *customer focus* and *service quality*

Customer focus	SERVICE QUALITY				
	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
CF 1	0.30	0.57	0.41	0.38	0.50
CF 2	0.15	0.34	0.39	0.30	0.51
CF 3	0.23	0.28	0.41	0.29	0.49
CF 4	0.48	0.36	0.55	0.45	0.46
CF 5	0.40	0.70	0.65	0.55	0.51



#### 5.4.1.7 Pearson Correlation between continuous improvement and service quality

The practise by the organization of *continuously improving business practices* had a positive and significant effect on *service quality* whilst the *provision of feedback to employees on their quality performance* had the least positive effect on *service quality* as presented in Table 16 and Table 17 below.

**Table 16:** Correlation between *continuous improvement* and *service quality*

Continuous improvement	SERVICE QUALITY						
	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
CI 1	0.07	0.37	0.41	0.33	0.62	0.45	0.65
CI 2	0.17	0.41	0.45	0.46	0.52	0.29	0.59
CI 3	0.24	0.42	0.44	0.41	0.49	0.17	0.50
CI 4	0.24	0.28	0.39	0.54	0.31	0.43	0.54
CI 5	0.25	0.39	0.50	0.56	0.48	0.41	0.62

**CI 1** – Our organization emphasizes continuous improvement

**CI 2** – Our organization reviews quality issues in top management meetings

**CI 3** – Our organization provides feedback to employees on their quality performance

**CI 4** – Our organization assesses business practices continuously

**CI 5** – Our organization improves business practices continuously

**Table 17:** Correlation between *continuous improvement* and *service quality*

Continuous improvement	SERVICE QUALITY				
	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
CI 1	0.20	0.67	0.65	0.49	0.61
CI 2	0.22	0.53	0.55	0.46	0.51
CI 3	0.22	0.61	0.34	0.34	0.33
CI 4	0.43	0.43	0.51	0.55	0.44
CI 5	0.44	0.53	0.54	0.59	0.45

#### 5.4.2 CHI-SQUARE TEST

The chi-square test for independence is based on the counts in a contingency or cross-tabulation table used in a study. This test determines whether the categories in row format are probabilistically independent of the counts for the column category formats, thus testing if two attributes or responses are independent in a probabilistic way (Kriel, 2008).

The interpretation rules of the Chi-square test are if the p-value is less than 0.05, then there is a statistically significant relationship between the two variables, and if p –value is greater than 0.05 then there is no statistically significant relationship (Kriel, 2008).

### 5.4.2.1 The Chi-square between Management support and commitment and service quality

The top level managers viewing quality as being more important than cost had a statistically significant relationship with service quality and the organization putting emphasis on long-term plan to improve quality had no statistically significant, as presented in Table 18 and Table 19 below.

**Table 18:** Chi-square between *management support and commitment* with *service quality*

Management support and commitment	SERVICE QUALITY						
	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ7
MS 1	0.00	0.32	0.54	0.72	0.18	0.05	0.06
MS 2	0.01	0.00	0.00	0.01	0.01	0.35	0.01
MS 3	0.21	0.06	0.05	0.31	0.01	0.06	0.08
MS 4	0.06	0.03	0.02	0.00	0.00	0.00	0.01
MS 5	0.12	0.02	0.14	0.03	0.00	0.00	0.02

**Table 19:** Chi-square between *management support and commitment* with *service quality*

Management support and commitment	SERVICE QUALITY				
	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
MS 1	0.33	0.02	0.02	0.10	0.05
MS 2	0.02	0.01	0.00	0.01	0.06
MS 3	0.19	0.00	0.00	0.04	0.09
MS 4	0.00	0.00	0.00	0.00	0.00
MS 5	0.00	0.00	0.00	0.01	0.00

#### 5.4.2.2 The Chi-square between employee involvement and service quality

Using the ability to work in teams as a criterion in employee selection had a statistically significant relationship with service quality, but the implementation of most employee suggestions had no statistically significant relationship with service quality as presented in Table 20 and Table 21 below.

**Table 20:** Chi-square between *employee involvement* and *service quality*

	SERVICE QUALITY						
Employee involvement	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
EI 1	0.07	0.32	0.09	0.02	0.35	0.16	0.06
EI 2	0.66	0.38	0.33	0.02	0.38	0.52	0.05
EI 3	0.39	0.09	0.09	0.34	0.15	0.07	0.32
EI 4	0.23	0.00	0.00	0.02	0.00	0.01	0.03

**Table 21:** Chi-square between *employee involvement* and *service quality*

	SERVICE QUALITY				
Employee involvement	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
EI 1	0.35	0.09	0.05	0.13	0.29
EI 2	0.61	0.01	0.06	0.06	0.20
EI 3	0.07	0.01	0.04	0.67	0.56
EI 4	0.07	0.00	0.00	0.02	0.00

### 5.4.2.3 Chi-square between the employee involvement and service quality

Using *problem solving ability* as a criterion in employee selection had a statistically significant relationship with *service quality* whilst *top management pushing decision making to the lowest practical level* had no statistically significant relationship with *service quality* s presented in Table 22 and Table 23 below.

**Table 22:** Chi-square between *employee involvement* and *service quality*

	SERVICE QUALITY						
Employee involvement	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
EE 1	0.02	0.11	0.11	0.19	0.11	0.72	0.07
EE 2	0.00	0.01	0.01	0.01	0.01	0.08	0.04
EE 3	0.03	0.11	0.05	0.01	0.01	0.09	0.16
EE 4	0.74	0.99	0.57	0.78	0.51	0.56	0.46

**Table 23:** Chi-square between *employee involvement* and *service quality*

	SERVICE QUALITY				
Information and communication	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
EE 1	0.68	0.36	0.14	0.18	0.03
EE 2	0.00	0.02	0.01	0.02	0.01
EE 3	0.07	0.00	0.01	0.00	0.06
EE 4	0.79	0.36	0.49	0.68	0.21

#### 5.4.2.4 Chi-square between the information and communication and service quality

Having an effective top-down and bottom-up communication had a statistically moderate relationship with service quality whereas having formal procedures to ensure reliability, consistency and improvement of quality data gathering cycle had no statistically significant relationship with service quality as presented in Table 24 and Table 25 below.

**Table 24:** Chi-square between *information and communication* and *ervice quality*

	SERVICE QUALITY						
Information and communication	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
IC 1	0.28	0.06	0.18	0.19	0.07	0.01	0.09
IC 2	0.89	0.47	0.74	0.83	0.06	0.00	0.15
IC 3	0.67	0.05	0.12	0.16	0.00	0.00	0.01
IC 4	0.42	0.16	0.05	0.09	0.02	0.01	0.01

**Table 25:** Chi-square between *information and communication* and *service quality*

	SERVICE QUALITY				
Information and communication	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
IC 1	0.00	0.01	0.03	0.04	0.01
IC 2	0.03	0.02	0.01	0.18	0.00
IC 3	0.01	0.00	0.00	0.01	0.00
IC 4	0.01	0.00	0.00	0.01	0.02

#### 5.4.2.5 Chi-square between training and education and service quality

*Quality-related training provided to managers, supervisors and employees had a statistically significant relationship with service quality whereas training in interactive skills being a must in the organization had no statistically significant relationship with service quality, as presented in Table 26 and Table 27 below.*

**Table 26:** Chi-square between *training and education* and *service quality*

	SERVICE QUALITY						
Training and education	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
TE 1	0.01	0.00	0.00	0.00	0.01	0.00	0.00
TE 2	0.40	0.03	0.02	0.00	0.01	0.00	0.00
TE 3	0.95	0.09	0.02	0.09	0.04	0.00	0.00
TE 4	0.02	0.00	0.00	0.00	0.00	0.09	0.00
TE 5	0.08	0.17	0.11	0.06	0.11	0.11	0.06
TE 6	0.03	0.02	0.01	0.01	0.05	0.04	0.00

**Table 27:** Chi-square between *training and education* and *service quality*

	SERVICE QUALITY				
Training and education	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
TE 1	0.00	0.02	0.00	0.02	0.01
TE 2	0.03	0.02	0.00	0.01	0.00
TE 3	0.09	0.00	0.01	0.00	0.01
TE 4	0.00	0.00	0.00	0.00	0.01
TE 5	0.03	0.01	0.00	0.02	0.14
TE 6	0.00	0.01	0.00	0.01	0.02

#### 5.4.2.6 Chi-square between customer focus and service quality

*Floor managers being aware of customer satisfaction levels had a statistically significant relationship with service whereas using customers' requirements as the basis for measuring quality had no statistically significant relationship with service quality, as presented in Table 28 and Table 29.*

**Table 28:** Chi-square between *customer focus* and *service quality*

	SERVICE QUALITY						
Customer focus	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
CF 1	0.97	0.23	0.47	0.11	0.01	0.00	0.00
CF 2	0.80	0.26	0.19	0.34	0.05	0.01	0.00
CF 3	0.79	0.88	1.00	0.17	0.02	0.00	0.07
CF 4	0.05	0.05	0.01	0.01	0.01	0.00	0.00
CF 5	0.80	0.01	0.02	0.08	0.00	0.00	0.00

**Table 29:** Chi-square between *customer focus* and *service quality*

	SERVICE QUALITY				
Customer focus	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
CF 1	0.05	0.00	0.01	0.01	0.00
CF 2	0.33	0.02	0.01	0.05	0.00
CF 3	0.12	0.06	0.01	0.05	0.00
CF 4	0.00	0.02	0.00	0.00	0.00
CF 5	0.01	0.00	0.00	0.00	0.00



#### 5.4.2.7 Chi-square between continuous improvement and service quality

*Continuous improvement* had a statistically significant relationship with service quality, especially *continuous improvement of business practices by the organization* whereas the *emphasizing on continuous improvement* had no statistically significant relationship with service quality, as presented in Table 30 and Table 31 below.

**Table 30:** Chi-square between *continuous improvement* and *service quality*

	SERVICE QUALITY						
Continuous improvement	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
CI 1	0.64	0.01	0.01	0.03	0.00	0.00	0.00
CI 2	0.26	0.01	0.00	0.00	0.00	0.05	0.00
CI 3	0.11	0.00	0.00	0.01	0.00	0.25	0.00
CI 4	0.11	0.06	0.01	0.00	0.04	0.00	0.00
CI 5	0.09	0.01	0.00	0.00	0.01	0.01	0.00

**Table 31:** Chi-square between *continuous improvement* and *service quality*

	SERVICE QUALITY				
Continuous improvement	SQ 8	SQ 9	SQ 10	SQ 11	SQ 12
CI 1	0.18	0.00	0.00	0.00	0.00
CI 2	0.15	0.00	0.00	0.00	0.00
CI 3	0.14	0.00	0.03	0.02	0.03
CI 4	0.00	0.00	0.00	0.00	0.00
CI 5	0.00	0.00	0.00	0.00	0.00

## 5.5 CONCLUSION

The data presented represent the results of the research that was conducted to investigate the impact of risk management on *service quality* in public hospitals. Chapter 6 will present an in-depth analysis of the results using the table and graphs presented under Chapter 5.

## **CHAPTER 6: DISCUSSION OF RESULTS**

### **6.1 INTRODUCTION**

This chapter will draw on quantitative findings presented on chapter five against the hypotheses presented in chapter three. Inferential statistics was applied to investigate if there are any relationships or correlations between the research variables and that will assist in proving the hypotheses that have been made.

### **6.2 KEY FINDINGS FROM THE RESEARCH**

#### **6.2.1 Demographic profile of hospital staff**

The majority of the respondents came from the above 50 years old age group and the age group 31 – 40 years and each accounting for 27% of the sample, followed by the 41 – 50 years old age group which accounts for 24% and the age group that is least represented on the sample is 30 years old and below age group, accounting for 22% of the sample, as presented on Figure 1.

These statistics give sufficient evidence to support what Horwitz and Pundit (2008) stated that low levels of job satisfaction have resulted in large numbers of health care professionals leaving the country or moving to private health care. According to the Health System Trust's review for 2008, at present only 3% of the registered nurses are below the age of 30, while 40% of them may retire within the four to ten years. The number of nurses produced has

increased in recent years but due to the burden of diseases such as HIV/AIDS, there is still a shortfall of the appropriate skills (South African Health Review, 2008).

The sample shows that the 89% of the respondents were female and the remainder of the sample was male, representing 11% of the sample, and these results indicate that the public hospitals are still female dominated as presented on Figure 2.

The majority of the respondents have a university or college education and that represents 58% of the sample, and the rest of the hospital respondents have secondary school education which represents 42% of the sample as presented on Figure 3.

The majority of the respondents are nurses who represent 44% of the sample, followed by the general workers accounting for 27% of the sample, followed by the middle managers at 18% followed by the clerks at 7% and the least represented level are the data captures representing 4% of the sample, as presented on figure 4. This is in line with what McIntyre, Thomas and Cleary (2004), Horwitz and Pundit (2008) and Pillay (2008) noted that the lack of health management capacity has impacted negatively on the quality of health care services in South African public health care system.

### 6.2.2 Demographic profile of patients

The majority of the respondents came from the above 50 years old age group accounting for 33% of the sample, followed by the 30 - 40 years old age group which accounts for 25%, followed by the less than 30 years age group which accounts for 22% of the sample and the age group that is least represented on the sample is the 30 - 40 years age group, accounting for 20% of the sample, as presented by Figure 5.

The sample shows that 75% of the respondents were female and the remainder of the sample were male, representing 25% of the sample as presented on figure 7, suggesting that females visit hospital more than men do.

The majority of the sample had visited the outpatient department of the hospital before and this accounted for 80% of the sample and the remainder of the sample were first time visitors to the outpatient departments of the specific hospitals, suggesting that the respondents' perceptions about the *quality of service* in the hospitals has been observed over a period of time, as presented on Figure 8.

### 6.2.3 Hypothesis one

Hypothesis one was "The extent of *management support and commitment* is positively related to *service quality*".

### 6.2.3.1 Discussion of hypothesis one

*Management support and commitment* was broken down into five (5) components that provide the detail on what is meant by this dimension as presented on Table 4.

The “*Top-level managers view quality as more important than cost*” variable displayed a strong correlation with most of the *service quality* variables suggesting that there is a positive relationship between the two variables. The analysis of these two variables also indicated that there was a statistically significant relationship and this also supported by Ronen and Pliskin (2006) on the “ten times rule” which states that the longer it takes to detect a problem it becomes ten times more expensive to fix. Therefore, the term prevention is better than is the approach to be adopted by management.

The analysis suggested that the management practise of using *quality performance to evaluate employees* had a significant relationship with *service quality* and that and it had a moderate and positive effect on *service quality*. Therefore, this evidence supports Kang and James (2004) who state that by measuring quality, management is in a better position of making informed decisions on how to allocate scarce resources in a way that enhance the value offered to their customers.

The approach cited by Ronen and Pliskin (2006) of “Centrality of the customer” which states that all organisational efforts should be focussed on

customer requirements which are used as performance goals. The analysis indicated that *setting clear quality goals by the organization* had a moderate and positive effect on *service quality* and also that there is significant relationship between the two variables and this is in line with what Ronen and Pliskin (2006) says above.

The *emphasis that the organization puts on long-term plan to improve quality* does not seem to have any significant relationship with *service quality* and the effect of this management practice is weak and sometimes even displays a negative effect on *service quality*.

#### **6.2.3.2 Conclusion on hypothesis one**

Ronen and Pliskin's (2006) believe that management commitment is critical to the quality management process and that is also supported by Nwabueze and Mileski (2008) as they consider quality service to be delivered when management's strategic direction and implementation is in line with what the consumers expect and what they eventually experience. The extent of this risk management practise with a mean of 3.11 is low when compared to Hazilah and Manaf (2005) who found a mean of 3.84 on leadership and management commitment. Therefore, there is sufficient evidence to conclude that *management support and commitment* has a positive effect on *service quality* and that there is a significant relationship between the two variables. Therefore, the hypothesis is accepted.

## 6.2.4 Hypothesis two

Hypothesis two was “The extent of *employee involvement* is positively related to *service quality*”.

### 6.2.4.1 Discussion of hypothesis two

*Employee involvement* was broken down into four (4) components that provide the detail on what is meant by this dimension as presented on Table 6.

The *use of the ability to work in teams as a criterion in employee selection* displayed a medium and positive effect on *service quality*, and the analysis also indicated that there is a significant relationship between the variables.

This supports what Hazila and Manaf (2005) declared that the company-wide effort is achieved through the full involvement of the entire workforce. This is also reiterated by Ronen and Pliskin (2006) when they state that a process can only be improved when teamwork is used to identify problems, solve them and prevent their recurrence.

This management practise mostly influenced the *maintenance of confidentiality on the transfer of information* and the *trustworthiness and willingness to help* by the hospital staff.

Contrary to what Ronen and Pliskin (2006) say that the quality service is achieved by a quality process when the employees and managers are part of the process and are actively involved in the process design and control. The analysis suggests that there is no significant relationship between the



implementation of employees' suggestion and *service quality* and there is also a small positive correlation with *service quality*.

#### **6.2.4.2 Conclusion on hypothesis two**

Evidence from the study suggests that only one variable from this risk management dimension supports the theory that has been published about its impact on *service quality*. The extent of this risk management practise with a mean of 2.56 is low when compared to Hazilah and Manaf (2005) who found a mean of 3.80 on *employee involvement*. Most of the variables suggest that there is no significant relationship between *employee involvement* and *service quality*. Therefore, this hypothesis is rejected.

#### **6.2.5 Hypothesis three**

Hypothesis three was "The extent of *employee empowerment* is positively related to *service quality*".

##### **6.2.5.1 Discussion of hypothesis three**

*Employee empowerment* was broken down into four (4) components that provide the detail on what is meant by this dimension as presented on Table 8.

The evidence from the study indicated that the *use of problem solving as a criterion for employee selection* had a moderate and positive effect on service delivery and it also demonstrated a significant influential relationship between the two variables. This practise had the biggest impact and influence on the *courtesy and friendliness* of the staff.

The practise by *top management of pushing decision making to the lowest practical level* had the least effect on service quality as it demonstrated a small correlation between the variables. The effect of this risk management practise sometimes demonstrated a negative effect on *service quality*.

#### **6.2.5.2 Conclusion on hypothesis three**

Williams *et al* (2006) suggest that one of the things that are necessary to ensure effective response to a crisis is fluidity in the organisational structure which empowers the personnel involved and which enables rapid and accurate information flow from the response teams to the coordinating centre. The analysis of this dimension provides sufficient evidence that the *employee involvement* had a weak but positive effect on *service quality*, and also reflected that there is no statistically significant relationship between the two variables.

This risk management practise had an influential relationship with *courtesy and friendliness, trustworthiness and willingness to help, availability to answer customers' questions, ease of handling customers' complaints, confidentiality of information transfer and ease and frequency of contact*.

The extent of the practice of this risk management dimension with a mean of 2.71 is low when compared to Hazilah and Manaf (2005) who found a mean of 3.80 on *employee empowerment*. Therefore, this hypothesis should be rejected.

## 6.2.6 Hypothesis four

Hypothesis four was “The extent of *information and communication* is positively related to *service quality*”.

### 6.2.6.1 Discussion of hypothesis four

*Information and communication* was broken down into four (4) components that provide the detail on what is meant by this dimension as presented on Table 10.

*Good communication between the different departments* did not reflect a significant relationship with *service quality* but indicated that there was a moderate and positive effect on *service quality*. This supports Williams *et al* (2006) who suggested that one of the things that are necessary to ensure effective response to a crisis is fluidity in the organisational structure which enables rapid and accurate information flow between different departments in an organization. Therefore, it is important that an organizational commitment to *service quality* is communicated to all the employees in all the areas that contribute to adding value to the entire organization (Dorsch, Yasin and Czurchry, 1997).

The analysis suggests that *an effective top-down and bottom-up communication* had no significant relationship with *service quality* but had a moderate and positive effect on *service quality*. This is in line with Williams *et al* (2006) who suggests that one of the things that are necessary to ensure effective response to a crisis is communication as it provides opportunities for

clarification and making sense of what is happening and deciding on the best risk mitigation strategies.

The existence of formal procedures that ensure reliability, consistency and improvement of quality data gathering cycle had no significant relationship with *service quality* and had a weak but positive effect on *service quality*.

#### **6.2.6.2 Conclusion on hypothesis four**

The study demonstrated that *information and communication* significantly influenced *service quality* aspects such as *responsiveness to customers' requests, fast account/bill information, maintenance of confidentiality of information transfer and the ability to be attentive to customers' complaints*.

The average r-value (0.32) of the activities related to *information and communication* suggest that it has a moderate and positive effect on *service quality*. The average p-value of 0.13 for this dimension indicates that there is no statistically significant relationship between the two variables. The extent of the practice of this risk management dimension with a mean of 3.18 is moderate. Therefore, this hypothesis should be rejected.

#### **6.2.7 Hypothesis five**

Hypothesis five was "The extent of *training and education* is positively related to *service quality*".

### 6.2.7.1 Discussion of hypothesis five

*Training and education* was broken down into six (6) components that provide the detail on what is meant by this dimension as presented on Table 12.

The provision of *training in problem identification and solving skills* had a significant relationship with *service quality* and demonstrated a moderate to strong correlation between the two variables, which had a positive effect on *service quality*. This is in line with what Samat, Ramayah and Saad (2006) noted that employees possessing appropriate knowledge and skills are important in delivering *service quality*. The analysis continues to support Samat *et al* (2006) as the *provision of quality related training to managers, supervisors and employees* demonstrated a moderate but positive effect on *service quality* and also suggested that there is significant relationship between the two variables.

Ronen and Pliskin (2006) also state that the modern approach to quality management is ensuring that there are clear specific rules and procedures to deal with a failure or a defective product and service when detected. The *provision of training in total quality concept* indicated a moderate and positive effect on *service quality* and also had a significant relationship with *service quality*, and this is in support of Ronen and Pliskin (2006).

It is important that an organizational commitment to *service quality* is communicated to all the employees in all the areas that contribute to adding value to the entire organization (Dorsch, Yasin and Czurchry, 1997). The evidence gathered during our study supports Dorsch *et al* (1997) as it

suggests that the organizational program on *quality awareness building among employees* had a significant relationship with *service quality*. The analysis also indicates that the *awareness building program* had a positive and moderate effect on *service quality*.

#### **6.2.7.2 Conclusion on hypothesis five**

This risk management practise had a significant relationship with most of the *service quality* variables with the exception of *courtesy and friendliness* and *responsiveness to customers' request*. *Training and education* has demonstrated that it had a significant relationship with *service quality* and that it has a moderate and positive effect on *service quality*, as it had the biggest effect on the ease of handling customers' complaints. Therefore, this leads us to believe that this hypothesis should be accepted.

#### **6.2.8 Hypothesis six**

Hypothesis six was "The extent of *customer focus* is positively related to *service quality*".

##### **6.2.8.1 Discussion of hypothesis six**

*Customer focus* was broken down into five (5) components that provide the detail on what is meant by this dimension as presented on Table 14.

Ronen and Pliskin (2006) highlights another approach when defining *service quality* which is referred to as the "Centrality of the customer" approach which states that the customer is the one that sets the performance standards,

therefore all organisational efforts should be based on customer requirements. Therefore, *the floor managers being aware of the customer satisfaction levels* is in line with what Ronen and Pliskin (2006) are referring to, as this variable had a significant influential relationship with *service quality* and also reflected a moderate to strong and positive effect on *service quality*. This suggests that the floor managers keep track of the satisfaction levels so that they devise means of ensuring that they meet the performance standards.

The analysis suggests that *the hospital staff is in close contact with the patients* as the extent of this practise has been fairly strong. The *close contact with the patients* seems to have a moderate to strong and positive effect on *service quality*, but the analysis of this risk management practise suggests that there no statistically significant relationship.

The use of customers' requirements as the basis for measuring quality had no statistically significant relationship with *service quality* and had a weak and sometimes negative effect on *service quality*, and it is also the least practised variable within *customer focus* dimension.

#### **6.2.8.2 Conclusion on hypothesis six**

*Customer focus* seems to have a significant influential relationship with some of the *service quality* variable such as the *availability to answer the customers' question, responsiveness to the customers' requests, confidentiality of information transfer* and *ease of handling customers' complaints*.

The average r-value (0.34) of the activities related to *customer focus* suggest that it has a moderate and positive effect on *service quality*. The average p-value of 0.14 for this dimension indicates that there is no statistically significant relationship between the two variables. The extent of the practice of this risk management dimension with a mean of 3.36 is moderate. Therefore, this leads us to believe that this hypothesis should be rejected.

### **6.2.9 Hypothesis seven**

Hypothesis seven was “The extent of *continuous improvement* is positively related to *service quality*”.

#### **6.2.9.1 Discussion of hypothesis seven**

*Continuous improvement* was broken down into five (5) components that provide the detail on what is meant by this dimension as presented on Table 16.

*Continuous improvement* is critical to enhancing the value of an organization because a once off improvement will only result in relative advantage but does not guarantee sustainability. Therefore, *continuous improvement* will assist an organization in sustaining its competitive advantage (Ronen and Pliskin, 2006). These are supported by our analysis as the culture within the organization of continuously assessing and improving business practise had a moderate to strong and positive effect on *service quality*. The analysis also suggests that these risk management practises had a strong influential relationship with *service quality*.



The use of customers' requirements as the basis for measuring quality had no statistically significant relationship with *service quality* and had a weak and sometimes negative effect on *service quality*, and it is also the least practised variable within *customer focus* dimension.

Williams *et al* (2006) suggest that one of the things that are necessary to ensure effective response to a crisis is a culture of willingness to learn from mistakes and to exchange best practice. Hazilah and Manaf (2005) also highlight quality management is both a philosophy and a guiding principle that represent the foundation of a continuously improving organization.

#### **6.2.9.2 Conclusion on hypothesis seven**

*Continuous improvement* seems to have a significant influential relationship with most of the *service quality* variable with the exception of the *courtesy and friendliness, responsiveness to the customers' requests* and *fast account/ bill information*. This dimension also displayed moderate to strong and positive effect with *service quality*, with the strongest impact observed on *efficiency in handling complaints, confidentiality of information transfer* and *ease of handling customers' complaints*. Therefore, this leads us to believe that the null hypothesis should be accepted.

#### **6.2.10 Hypothesis eight**

Hypothesis eight was "The Patients are satisfied with the *quality of service* received".

### 6.2.10.1 Discussion of hypothesis eight

There seems to be a consensus on how *service quality* is defined by various authors, as it is defined as the ability of the service provider to meet or exceed customer needs and expectations (Bakar, Akgun and Assaf, 2007; Quader, 2009; Sohail, 2003).

Ronen and Pliskin (2006) also agree with this definition, but also highlight that there are various other definitions such as the economic approach which will ensure that the service is delivered in the most economical form for the organisation through “Doing it right the first time” without failures and by ensuring that all activities that do not add value to the customer are eliminated. These customer’s perceptions of service are not only influenced by the conditions under which the service is delivered but also by the employees’ attitudes towards the customer (Oliva and Bean, 2008).

The means of the perception responses for the twelve variables relating to *service quality* range from 3.17 to 4.14. The analysis suggests that the outpatient departments of public hospitals in Gauteng are moderately performing on other areas with other items rated as good performance such as the *staff appearing neat, the patient file providing sufficient information to patient and staff being knowledgeable*. They appear to be performing well with high patient satisfaction scores recorded by the majority (62%) of the respondents.

The analysis of the gap scores shows a range of means across the items relating to *service quality* from 0.36 to 1.42 suggesting that none of the *service*

*quality* items' actual experience exceeded the patients' expectations, with the *staff gives you prompt service* and *department provides its services on time* being the items with the biggest gap between expectations and perceptions.

#### **6.2.10.2 Conclusion on hypothesis eight**

The overall satisfaction levels suggest that the majority (89%) of the patients are happy with the *quality of service* provided and 11% of the respondents indicated dissatisfaction, indicating that the patients seem to be satisfied with the *quality of service* received from outpatient departments in Gauteng public hospitals. Therefore, this leads us to believe that this hypothesis should be accepted.

#### **6.2.11 Conclusion on chapter 6**

This chapter presented the results of the study whose primary objective was to assess the impact of risk management on *service quality* in outpatient departments of Gauteng public hospitals. The risk management dimensions that were assessed were *management support and commitment, employee involvement, employee involvement, information and communication, training and education, customer focus* and *continuous improvement*. All of the dimensions were discussed and four of the hypotheses were accepted and the other four were rejected. The main findings and recommendations will be discussed in chapter 7 and suggestions for future research will be highlighted.

## CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

### 7.1 Introduction

This study applied a quantitative research to evaluate eight hypotheses that were attempting to establish if a relationship exists between *service quality* and risk management practices in outpatient departments of Gauteng public hospitals. The study also evaluated the *quality of service* provided for patients by the outpatient departments in public hospitals. This section will present the key findings from the study conducted.

### 7.2 Summary of the key findings from the study

The study reveals that outpatient departments of Gauteng public hospitals are performing well with high patient perception scores and overall satisfaction levels indicated by the majority of the respondents and 11% indicating unfavourable overall satisfaction levels. The positive aspects of *service quality* include *neat and knowledgeable staff* and *informative patient files*. The negative aspects of the *service quality* were that *services not provided on time* and *the staff not providing prompt service to patients*, and management needs to devise a plan on how these service areas will be improved as they also represented the variables that reflected the biggest gap between patients' expectations and their perceptions.

The study indicated that risk management is moderately practised in Gauteng public hospitals, with *customer focus, information and communication* and *management support and communication* being mostly practised whilst

*employee involvement* and *empowerment* were the least practised. The results show that only some of the risk management practises had a significant effect on *service quality*, such as *management support and commitment*, *training and education* and *continuous improvement*. This is probably because management does not wait for things to go wrong before they implement change but they continuously challenge themselves. Therefore, public hospitals need to find ways and means on how to improve these practises.

### **7.3 Recommendations to public hospitals**

Management needs to assess the root causes for services not being provided on time and the staff not providing prompt service and maybe consider increasing the capacity in public hospitals by hiring more nurses. This challenge supports what was said by McIntyre, Thomas and Cleary (2004), Horwitz and Pundit (2008) and Pillay (2008), in respect of the shortage of health care professionals. They need to find ways of making the profession, especially in public sector, more attractive by dealing with issues such as working conditions and the salaries as these have been contentious issues in our country.

*Continuous improvement* can be made better by assessing performance on an ongoing basis and provide feedback to the staff, so that improvement plans can be developed and closely monitored.

*Management support and commitment* can be enhanced by pushing decision making to the lowest practical level that will provide the staff with the confidence that they are trusted and will be supported on everything that they do as long as

it is in line with improving the *quality of service*. Risk management emphasises co-operation of everyone in the organization through team work therefore, management commitment on this process is critical, according to Ronen and Pliskin (2006).

*Training and education* can be improved by providing the staff with training on interactive skills that will help them to be able to source information from patients that will help them identify problems, which will help the hospital get closer to meeting the patients' expectations. This will require management to set aside budget for this training and not treat training as an administrative cost, but core to the business because employees with the appropriate knowledge and skills are vital in delivering *service quality*.

#### **7.4 Suggestions for future research**

Suggestions on future research that can assist management to gain a better understanding of the health care sector as a whole.

The study was conducted on public hospitals only, therefore, a similar study can be conducted on private hospitals and that can assist in providing additional insights about this industry. Most respondents were from the nursing staff, therefore getting responses from different individuals and management levels especially doctors would reduce the biasness from the nursing staff dominating the responses.

Additional risk management practices can be included that will be health sector specific and they can produce different result which will indicate other variables that can have a greater impact on *service quality*.

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## APPENDICES

### 1.1 APPENDIX 1: HOSPITAL STAFF QUESTIONNAIRE

**QUESTIONNAIRE: Impact of risk management on service quality in public hospitals**

#### Section 1: Introduction

##### 1.1 Consent for participation in the study: questionnaire completion

Thank you for your participation in this research project. The study is conducted towards part fulfilment of a Master of Business Administration (MBA) degree with the Gordon Institute of Business Science (GIBS), University of Pretoria (UP).

This study attempts to examine the linkages between risk management practices and service quality among public hospitals, therefore assess how risk management practices affect service quality. Please complete the questionnaire based on your opinion and experience.

Your experience and the experience of your organization are valuable and meaningful towards the success of this research and it will help in developing a better understanding on this topic and guide to improve performance among public hospitals. There are no right or wrong answers as we are only interested in your honest opinion and experience.

Your participation in the study is voluntary and you can withdraw at anytime without penalty. All the information provided by you will be treated as confidential. No inferences will be made in any way that can link individual or organization names to the result.

By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact me or my supervisor. Our details are provided below.

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**QUESTIONNAIRE:**

**SECTION A**

**Risk Management Practices.**

Listed below are a number of statements intended to measure your perceptions about risk management practices in your organization. Please indicate the extent to which you disagree or agree with each statement by circling one of the 5 numbers next to each statement.

**1 = strongly disagree, 2 = disagree, 3 = average, 4 = agree, and 5 = strongly agree.**

**I. Management support and commitment**

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. Our organization puts emphasis on long-term plan to improve quality.                  | 1 | 2 | 3 | 4 | 5 |
| 2. Our organization sets clear quality goals identified by top-level managers.           | 1 | 2 | 3 | 4 | 5 |
| 3. At organization meetings, top-level managers often discuss the importance of quality. | 1 | 2 | 3 | 4 | 5 |
| 4. Top-level managers view quality as being more important than cost.                    | 1 | 2 | 3 | 4 | 5 |
| 5. Top-level managers depend heavily on quality performance to evaluate employees.       | 1 | 2 | 3 | 4 | 5 |

**II. Employee involvement**

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. All employees' suggestions are taken into consideration.                 | 1 | 2 | 3 | 4 | 5 |
| 2. Most employees' suggestions are implemented.                             | 1 | 2 | 3 | 4 | 5 |
| 3. We often work in teams, with members from different departments.         | 1 | 2 | 3 | 4 | 5 |
| 4. We use the ability to work in team as a criterion in employee selection. | 1 | 2 | 3 | 4 | 5 |

### III. Employee empowerment

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. Employees are encouraged to take their own initiatives when dealing with customers' complaints. | 1 | 2 | 3 | 4 | 5 |
| 2. Problem solving ability is a criterion in selecting employees.                                  | 1 | 2 | 3 | 4 | 5 |
| 3. Employees are given the resources necessary to deal with customer complaints.                   | 1 | 2 | 3 | 4 | 5 |
| 4. Top management pushes decision making to the lowest practical level.                            | 1 | 2 | 3 | 4 | 5 |

### IV. Information and communication

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. We collect data and information to support performance improvement efforts.                                   | 1 | 2 | 3 | 4 | 5 |
| 2. We have formal procedures to ensure reliability, consistency and improvement of quality data gathering cycle. | 1 | 2 | 3 | 4 | 5 |
| 3. We have good communication between different departments.   | 1 | 2 | 3 | 4 | 5 |
| 4. We have an effective top-down and bottom-up communication.  | 1 | 2 | 3 | 4 | 5 |

### V. Training and education

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Quality-related training is given to managers, supervisors and employees.        | 1 | 2 | 3 | 4 | 5 |
| 2. Training in total quality concept is provided in our organization.               | 1 | 2 | 3 | 4 | 5 |
| 3. Training in interactive skills is a must in our organization.                    | 1 | 2 | 3 | 4 | 5 |
| 4. Our organization provides training in problem identification and solving skills. | 1 | 2 | 3 | 4 | 5 |
| 5. Our organization provides training in quality improvement skills.                | 1 | 2 | 3 | 4 | 5 |
| 6. Our program on quality awareness building among employees is ongoing.            | 1 | 2 | 3 | 4 | 5 |

## VI. Customer focus

1. A summary of customer complaints is given to floor managers.	1	2	3	4	5
2. Customers' feedback is used to determine their requirements.	1	2	3	4	5
3. Customers' requirement is used as the basis for measuring quality.	1	2	3	4	5
4. Floor managers are aware of customer satisfaction levels.	1	2	3	4	5
5. We are frequently in close contact with our customers.	1	2	3	4	5

## VII. Continuous improvement

1. Our organization emphasizes continuous improvement.	1	2	3	4	5
2. Our organization reviews quality issues in top management meetings.	1	2	3	4	5
3. Our organization provides feedback to employees on their quality performance.	1	2	3	4	5
4. Our organization assesses business practices continuously.	1	2	3	4	5
5. Our organization improves business practices continuously.	1	2	3	4	5



## SECTION B

### Service Quality

Based on your experience, how would you rate your organization on the following characteristics (**Functional Quality**)?

1 = very low, 2 = low, 3 = medium, 4 = high, and 5 = very high.

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Courtesy and friendliness.                               | 1 | 2 | 3 | 4 | 5 |
| 2. Competence and ability to explain.                       | 1 | 2 | 3 | 4 | 5 |
| 3. Competence and ability to explain services and policies. | 1 | 2 | 3 | 4 | 5 |
| 4. Trustworthiness and willingness to help.                 | 1 | 2 | 3 | 4 | 5 |
| 5. Availability to answer the customers' questions.         | 1 | 2 | 3 | 4 | 5 |
| 6. Responsiveness to the customers' requests.               | 1 | 2 | 3 | 4 | 5 |
| 7. Efficiency in handling complaints.                       | 1 | 2 | 3 | 4 | 5 |

Based on your experience, how would you rate your organization on the following areas (**Technical Quality**)?

1 = very low, 2 = low, 3 = medium, 4 = high, and 5 = very high.

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Fast account/bill information.           | 1 | 2 | 3 | 4 | 5 |
| 2. Confidentiality of information transfer. | 1 | 2 | 3 | 4 | 5 |
| 3. Ease of handling customers' complaints.  | 1 | 2 | 3 | 4 | 5 |
| 4. Ease and frequency of contact.           | 1 | 2 | 3 | 4 | 5 |
| 5. Attentiveness to customers' complaints.  | 1 | 2 | 3 | 4 | 5 |

## SECTION C

### Demographic Information.

We need to know some demographic information of your organization. Please answer the following questions.

1. My position in the organization:
  - a. *Executive management*
  - b. *Upper Middle Manager / Deputy GM*
  - c. *Middle Manager / Manager*
  - d. *General worker*
  - e. *Others (please specify):* \_\_\_\_\_
  
2. Age: \_\_\_\_\_ years.
  
3. Sex:
  - a. *Male*
  - b. *Female*
  
4. Education Level:
  - a. *Primary school*
  - b. *Secondary School*
  - c. *University/College*
  - d. *Others (please specify):* \_\_\_\_\_

## 1.2 APPENDIX 2: PATIENT QUESTIONNAIRE

### SECTION A

#### Patients' expectations

Listed below are a number of statements intended to measure your service expectations from the department. Please indicate the extent to which you disagree or agree with each statement by circling one of the 5 numbers next to each statement.

**1 = strongly disagree, 2 = disagree, 3 = average, 4 = agree, and 5 = strongly agree.**

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. The facilities in the department should be visually appealing.   | 1 | 2 | 3 | 4 | 5 |
| 2. The staff should appear neat.                                    | 1 | 2 | 3 | 4 | 5 |
| 3. The patient file should provide sufficient information to you.   | 1 | 2 | 3 | 4 | 5 |
| 4. The department should provide their services on time.            | 1 | 2 | 3 | 4 | 5 |
| 5. The department should perform the study right the first time.    | 1 | 2 | 3 | 4 | 5 |
| 6. The staff should give you prompt service.                        | 1 | 2 | 3 | 4 | 5 |
| 7. The staff should always be willing to help you.                  | 1 | 2 | 3 | 4 | 5 |
| 8. The staff should be knowledgeable.                               | 1 | 2 | 3 | 4 | 5 |
| 9. The staff should be courteous                                    | 1 | 2 | 3 | 4 | 5 |
| 10. The staff should instill confidence in patients                 | 1 | 2 | 3 | 4 | 5 |
| 11. The staff should be expected to give you adequate attention     | 1 | 2 | 3 | 4 | 5 |
| 12. The department should have opening hours convenient to patients | 1 | 2 | 3 | 4 | 5 |

## SECTION B

### Patients' perception/experience

Listed below are a number of statements intended to measure your perception about service from the department. Please indicate the extent to which you disagree or agree with each statement by circling one of the 5 numbers next to each statement.

**1 = strongly disagree, 2 = disagree, 3 = average, 4 = agree, and 5 = strongly agree.**

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. The facilities in the department are visually appealing.         | 1 | 2 | 3 | 4 | 5 |
| 2. The staff appear neat.   | 1 | 2 | 3 | 4 | 5 |
| 3. The patient file provides sufficient information to you.         | 1 | 2 | 3 | 4 | 5 |
| 4. The department provides its services on time.                    | 1 | 2 | 3 | 4 | 5 |
| 5. The department performs the study right the first time.          | 1 | 2 | 3 | 4 | 5 |
| 6. The staff gives you prompt service.                              | 1 | 2 | 3 | 4 | 5 |
| 7. The staff is always willing to help you.                         | 1 | 2 | 3 | 4 | 5 |
| 8. The staff is knowledgeable.                                      | 1 | 2 | 3 | 4 | 5 |
| 9. The staff is courteous   | 1 | 2 | 3 | 4 | 5 |
| 10. The staff instills confidence in patients                       | 1 | 2 | 3 | 4 | 5 |
| 11. The staff gave you adequate attention                           | 1 | 2 | 3 | 4 | 5 |
| 12. The department should have opening hours convenient to patients | 1 | 2 | 3 | 4 | 5 |

## SECTION C

### Demographic Information.

We need to know some demographic information about you. Please answer the following questions.

1. Age: \_\_\_\_\_ years.

2. Sex:

- a. *Male*
- b. *Female*

3. Is this your first visit at this department

- a. *Yes*
- b. *No*

*If not, please indicate number of previous visits: \_\_\_\_\_*