RISK MANAGEMENT FRAMEWORK FOR SELECTED SERVICE ORGANISATIONS IN THE WESTERN CAPE

CHINA MASANDE GONIWE

199045771

MASTER OF ENGINEERING: QUALITY

In the

Faculty of Industrial and Systems Engineering

Cape Peninsula
University of Technology

Principal Supervisor:
Prof. Stephen Bosman

Co Supervisor:
Bronwyn Claudia Swartz

Cape Town

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DECLARATION

By

China Masande Goniwe

"I hereby declare that this research submitted for the degree (Master of Engineering: Quality) at the Cape Peninsula University of Technology, is my own original unaided work and has not previously been submitted for any other institution of higher education. I further declare that all sources cited or quoted are indicated or acknowledged by means of a comprehensive list of references"

Name: China Masande Goniwe

Signature:

Date:

ABSTRACT

This qualitative research study examines the everyday operation of risk management within quality management in selected service organisations in the Western Cape. The service organisations are selected on the basis of their reputation in the providence of services. This qualitative research study specifically focuses on the scope of risk management particularly within quality management. The predominant objective of this research is to develop a framework that can be a significant contributor to improvement in the Western Cape's service organisations.

A finding of this research is that there are gaps that need to be closed in order to improve the risk management system as well as the quality management. In addition this research confirms that a risk management framework needs to be developed to provide a mechanism that can be employed by service organisations in the Western Cape to ensure that risk is identified, assessed, monitored and mitigated. Furthermore, the research then presented a risk management framework that will provide a method that can be put into practice by service organisations in the Western Cape to ensure that risk is managed effectively and efficiently.

This research demonstrates that in order to develop a risk management framework it is important that a risk management system is understood thoroughly. Then once the risk management system is understood required changes can be proposed and this is done for the purposes of improvement in the Western Cape's service organisations. The approach proposed by this research challenges views that regard enhancing the service organisation's risk management within their quality management system with the goal of satisfying their customers.

Keywords: Risk Management, Quality Management, Service Organisations, Western Cape, Risk Management Framework, Risk Evaluation, Integration, Perception, Risk Factors, Constraints

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DEDICATION

This research study is dedicated to my mother, Yolisa "Yisa" Goniwe, whose unconditional love has always been an inspiration.

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Acronyms and Abbreviations (list of abbreviations)

DWS   Department of Water and Sanitation

CCT   City of Cape Town

ESD   Electricity Services Department

ERM   Enterprise Risk Management

SHEQ-MS   Safety, health, environment and quality management system

GRC   Governance, risk management and compliance

SABS   South African Bureau of Standards

OHAS   Occupational Health and Safety

CEO   Chief executive officer

ISO   International Organisation for standardisation

MAT   Mitigate, Avoid and Transfer

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CHAPTER 1: INTRODUCTION AND MOTIVATION

1.1   INTRODUCTION

The degree of risk management present in quality management systems within selected service organisations in the Western Cape is evaluated by this research. The aim of the study was to identify gaps and recommend ways to close those gaps in order to improve the risk management system as well as the quality management system.

The evaluation of how the departments within service organisations interact and support the organisation and how the risk management system affects quality management system across organisations is presented by this dissertation.

The research evaluates whether differences exist in the manner in which risk is managed in different service organisations in the Western Cape. The focus of study is to adapt the good features of the best demonstrated practices and a framework that supports quality management system is developed to improve risk management.

Abuhav (2017: 8) points out that a quality management system is a management technique used to communicate requirements to produce the desired quality of products and services to employees, and to influence employee actions to complete tasks according to the quality specifications. When 'quality' is the key to an organisation's success, quality management systems in the organisation allow that organisation to keep abreast of current quality levels, meet the customer's requirement for quality, retain employees through competitive compensation programs, and to keep up to date with the latest technology (Abuhav 2017: 8).

According to Drennan, McConnell and Stack (2014:20), quality management is a process of designing and executing products and services effectively, efficiently and economically while risk management is the process of identifying, addressing, prioritising and eliminating potential sources of failure to achieve objectives.

Aven and Renn (2010:3), argue that risk refers to uncertainty about an event or situation with respect to something that human's value.

When the focus of the quality management system is transformed to adopt to a risk based perspective, the common definitions of quality become risk of defects, risk of customer dissatisfaction, risk of uncontrolled process variance, risk of product unreliability, risk of security breach, risk of lack of fitness (Drennan, McConnell & Stack 2014:20).

Applying risk management is being proactive, preventive and pre-emptive. It is believed that quality management system can be used to manage risks and is essential in organisations (Drennan, McConnell & Stack 2014:20). The authors further state, that the management of risk can be viewed as an inherent part in the process of managing quality. They purport that unless threats to the achievement of the delivery objectives are identified, evaluated and appropriate controls are put in place, it is less likely that services will be delivered with the level of quality intended (Drennan, McConnell & Stack 2014:20).

This research set out to assess three service organisations within the Western Cape with a focus directed at their risk management system. The organisations are Power Group (Engineering and Construction), the Department of Water Affairs (DWA) and the City of Cape Town (CCT).

Three organisations are selected in the Western Cape on the basis of their reputation in the providence of services. The services that they provide to their customers include water, electricity and roads. These three essential service organisations provide services to their customers considering the customer's expectations and perceptions. When an organisation understands the customer's expectations and customer's perceptions, that organisation is enabled to assess the gap in the area. The three organisations have a quality management system in place with a strong emphasis on risk management systems with the idea to improve their services continuously ensuring customer satisfaction.

This research explored and determined the level of risk management present in quality management system in the above mentioned organisations.

1.2 BACKGROUND

According to AL-Thani & Merna (2008:37), risk is unavoidable and over time procedures for survival in a constantly changing environment have been developed. The author's contention is supported by Cretu, Stewart and Berends (2011:1) who affirms that although risk management has been around since ancient history, one of the reasons for the development of risk management has been the failure of projects to meet their budgets, completion dates, quality and performance or generate sufficient revenues to service the principal and interest payments.

Risk management according to Gibson (2014:22) includes several techniques, namely:
- ➢ Avoidance,
- ➢ Transfer and
- ➢ Mitigation

The above mentioned techniques are used to manage risk by simply avoiding it, transferring risk by shifting responsibility to another party and reducing vulnerabilities (Gibson 2014:23).

A common approach employed for risk management in organisations is that organisations have risk committees which are chaired by a main board member or a risk facilitator which has overall responsibility for risk management across the organisation (Cretu, Stewart & Berends 2011:1).

The authors argue that one of the most important concerns that organisations face today is the management of risk. Thus, it is essential for organisations to have a comprehensive risk management strategy for survival, allowance for informed business decision making and continuous improvement (Cretu, Stewart & Berends 2011:4). Further to this, the authors state that to have a process in place to identify major business risks as one of the key procedures of an effective control system is of utmost importance.

The enterprise risk management (ERM), safety, health, environment and quality management system (SHEQ-MS) and Governance, risk management and compliance (GRC) will be introduced and reviewed.

Cretu, Stewart and Berends (2011:5), offer principles for assessing effectiveness on the identification and evaluation of risks and control objectives, namely:

- Identification of key business risks timeously,
- Consideration of the likelihood of risks crystallising,
- Establishment of priorities for the allocation of resources available for control and
- The setting and communicating of clear control objectives.

The types of risks that organisations face change constantly. The management of risk should be a process of identification and mitigation that is reviewed regularly. In addition, the authors add that all levels of an organisation must be included in the management of risk in order for it to be effective. They maintain that the aim of risk management is threefold as seen in figure 1.

Figure 1: Threefold diagram (**Source**: Cretu, Stewart & Berends 2011:5)

The authors argue that these stages include being able to assess the prevailing environment (both internal and external) and to assess how any changes to that prevailing environment would impact on a project in hand or on a portfolio of projects (Cretu, Stewart & Berends 2011:5).

An opinion offered by Cretu, Stewart & Berends (2011:6:2), is that the word 'risk' is perceived in a negative way, however, if managed in the correct way the prevailing risks can have a positive impact such as making business better, saving money, fewer losses, greater efficiency, productivity

and safety. The illustration as seen in Figure 2 is an example of a relationship of risk to possible losses and gains.
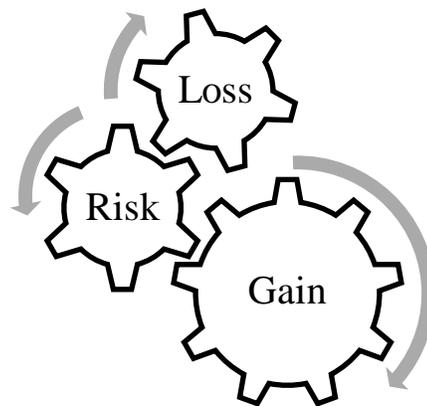
Figure 2: Relationship of risk to possible losses and gains (**Source**: Cretu, Stewart & Berends 2011:6)

Cretu, Stewart & Berends (2011:6), state that risk management should not only consider threats (possible losses) but also the opportunities (possible gains). They state that it is important to note that losses or gains can be made at each level of an organisation.

There are many different types of risk as described by Hong Kong Institute of Bankers (2013:4), such as the credit risk, market risk, liquidity risk, reputational risk, legal risk and strategic risk however, this research focuses on operational risk management.

A definition offered by Lam (2014:44), is that operational risk is the risk of loss which results from inadequate or failed internal processes, people and systems from external events.
Operational risk does not only cover operations in an organisation. Operational risk covers all aspects of business risk which includes strategic and reputational risks (Blunden and Thirlwell, 2013:8). This study explores and unpacks all aspects of operational risk management.

1.3   RESEARCH PROBLEM STATEMENT

The absence of certain elements in an operational risk management framework has an adverse effect on quality management systems in selected service organisations in the Western Cape.

1.4 PRIMARY RESEARCH QUESTION

What are the most influential factors, pertaining to risk management, that have an adverse effect on the quality management systems in selected service organisations in the Western Cape?

1.4.1 INVESTIGATIVE QUESTIONS

- ➢ What are the primary differences seen in risk management systems of selected service organisations in the Western Cape?
- ➢ What are the primary areas of the quality management system that are adversely affected by poor risk management?
- ➢ What is the result of inadequate risk management system that impacts on the quality management system?
- ➢ What are the reasons for inadequate risk management system in the selected service organisations in the Western Cape?
- ➢ How can excellence in risk management in a quality management system be achieved?

1.5 RESEARCH OBJECTIVES

- ➢ Evaluate current risk management systems within quality management systems of selected service organisations in the Western Cape.
- ➢ Determine employee and management perception on risk management within the quality management system in selected service organisations.
- ➢ Establish factors affecting the risk management system resulting in inadequacies.
- ➢ Evaluate the inadequacies in the risk management system in the selected service organisations in the Western Cape.
- ➢ Develop an improved plan for changes to current risk management system.

1.6   THE RESEARCH PROCESS

Oliver (2010:30), proposes that the following be used as a research process:

- ➢ Determine the 'field of study',
- ➢ Identify a specific problem within a researchable application area,
- ➢ Conduct an abbreviated literature review,
- ➢ Formulate the research problem,
- ➢ Formulate a research question and associated investigative questions,
- ➢ Select an appropriate research design and methodology,
- ➢ Determine key research objectives,
- ➢ Document the research process,
- ➢ Identify the limitations of the research,
- ➢ Formulate a formal research proposal,
- ➢ Established a structured working relationship with the supervisor,
- ➢ Conduct an in-depth literature review,
- ➢ Collect, analyse and interpret the research data,
- ➢ Write up the dissertation or thesis and
- ➢ Proofread the dissertation/thesis and submit for formal vetting.

1.7   RESEARCH DESIGN AND METHODOLOGY

Kumar (2008:5) and Mackey and Gass (2015:1), argue that research methodology is a manner in which to systematically solve research problems. It may be understood as a science of 'studying how research is scientifically performed' (Kumar, 2008:5, Mackey & Gass, 2015:1).

Methodology is understood as "how to proceed from the findings of empirical research to make inferences about the truth – or at least the adequacy – of theories". (Bellamy & 6, 2012:1). Kothari (2004:32) and Roller and Lavrakas (2015:1), offer that research design is needed because it facilitates the smooth operation of the various research functions, thereby making research as

efficient as possible yielding maximal information with minimal expenditure of effort, time and money.

Both Kothari (2004:33) and Roller and Lavrakas (2015:1), express the view that a research design should be appropriate for the particular research problem that it was selected for, and usually involves the consideration of the following factors:

- ➢ the means of obtaining information,
- ➢ the availability and skills of the researcher and his staff, if any,
- ➢ the objective of the problem to be studied, and
- ➢ availability of the time and money for the research work.

Both Kumar (2008:8) and Mackey and Gass (2015:1), share the opinion that quantitative research is based on the measurement of quantity or amount. Quantitative research is therefore applicable to phenomena that can be expressed in terms of numerical quantity. The author adds that the qualitative research, on the other hand, is concerned with qualitative non-numerical phenomenon, i.e., phenomena relating to or involving quality or kind (Kumar, 2008:8, Mackey & Gass, 2015:1). In light of offerings of these authors, the research method that will be employed by this research study is a qualitative research method. It is believed that a qualitative method will be best suited for this research study as this study will focus on collecting data using the interview approach.

Creswell (2014:4), emphasises that qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribed to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting and the researcher making interpretations of the meaning of the data. The final written report has a flexible structure. Cresswell (2014:4) avers that those who engage in this form of inquiry support a way of looking at research that honours an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation.

A cross-sectional study will be best for this study because "*it is one which collects data about various variables of the sample at one point of time in order to uncover relationships existing among those variables*" (Kumar 2008:10, Mackey & Gass, 2015:2).

1.7   DATA COLLECTION DESIGN AND METHODOLOGY

According to Lapan, Quartaroli and Riemer (2012:8), the goal of most research is to find the answer to some question or solution to some problem and translate that answer into findings that may lead to practical decisions of one kind of another. Lapan, Quartaroli and Riemer (2012:8), further state that, findings from these kinds of studies might be presented in the form of words, numbers or both. Numbers, often generated as scores on tests or ratings on surveys, are usually presented in tables and charts based on descriptive or inferential statistical procedures. Data is collected from three selected services and risk management practice in relation to the quality management system is evaluated.

Before data is collected it is important to consider how it will be analysed, reported and used (Youngberg 1996:53) and (OECD, 2015:186) Theses authors explain that data collection methods should suggest data sources and involve testing of the methods before implementation.

The unit of measure is thus three service organisations within the Western Cape from which data will be collected, as this research study seeks to evaluate the risk management systems of the three organisations.

Som (2012:1), states that sampling is the process by which inference is made of the whole by examining only a part. The author further states that sampling is woven into the fabric of our personal and public lives. The purpose of sampling is to provide various types of statistical information of a qualitative or quantitative nature about the whole by examining a few selected units. A sampling method is the scientific procedure of selecting those sampling units which would provide the required estimates with associated margins of uncertainty, arising from examining only a part and not the whole (Som, 2012:1). Purposive sampling is used for this research study.

According to Joint Commission Resources (2008:35) and Vallabhaneni (2015:490), sampling is a basic statistical process that involves drawing a limited number of measurements from a larger source (population) and then analysing those measurements to estimate characteristics of the entire population. This author states that sampling a subset of an entire population helps one predict the

results for that population while saving money and resources. Although sampling can be cost-effective and save time, one must use a statistically valid methodology to ensure the credibility of the data results (Joint Commission Resources, 2008:35) and (Vallabhaneni 2015:490). Research data is collected through nine interviews which is conducted over a period of three months.

1.8   RESEARCH ASSUMPTIONS

The research is based on the assumptions that the employees and the managers interviewed provide accurate and reliable information.

1.9   RESEARCH CONSTRAINTS

Results from this research are based on only three organisations in the Western Cape which might not provide a holistic overview of the real problem. The research limitation within this study is the availability of interviewees.

1.10   CONCLUSION

This chapter has sought to provide a brief introduction with key factors which recognise the importance of an in-depth understanding of a risk management system and how it can be a significant contributor to improvement in the Western Cape's service organisations.   The development of a risk management framework by this research ultimately provides a mechanism that can be employed by service organisations in the Western Cape to ensure that risk is identified, assessed, monitored and mitigated. The next chapter provides a holistic overview of the research.

CHAPTER 2: HOLISTIC OVERVIEW OF THE RESEARCH ENVIRONMENT

This chapter is a theoretical examination in the general area of the risk management practices within quality management systems of service organisations, as well as the practices of three selected service organisations. Thus, chapter two of this research study has a twofold purpose. First, the chapter provides a holistic literature assessment of the research environment where this study took place. The focus of the assessment is on risk management practices within the quality management systems in each of the service organisations selected for this research. Thereafter this chapter deliberates factors in the research environment that are believed to forecast the need for a risk management framework in the research environment. As such, gaps in the current body of knowledge on risk management in service industries are identified. This served as a guide that ultimately directed the manner in which the research objectives of this study was met.

Accordingly the following relevant topics were reviewed as listed below:

- Introduction,
- Service organisations,
- Service organisations in this research study,
- Risk management within quality management,
- Quality management in service organisations,
- Risk management in service organisations,
- The need for a risk management framework and,
- Conclusion

2.1 INTRODUCTION

To make a significant quality improvement to the manner in which risk is managed in selected service organisations in the Western Cape, a thorough theoretical evaluation of risk management during the process of quality management in the research environment is necessary. Therefore,

the research lens of this literature review is directed at service organisations within the Western Cape.

Three essential service organisations were selected on the basis of their reputation in the providence of services. The services these organisations provide are construction, water and electricity. All of the organisations share an association by the fact that they all have an operational quality management system in place. The organisations are Power Group, the Department of Water and Sanitation (DWS) and the City of Cape Town (CCT).

2.2   SERVICE ORGANISATIONS

Botten and McManus (1999:31) define a service organisation as an organisation that delivers a service to user entities. They maintain the service is likely to be relevant to these user entities'. The term 'user entity' is defined as a consumer organisation or ordinary consumer making use of the service. Parker (2012: 12) offers that there are two types of services namely, a private service and a public service. He proposes a public service can be described as a system that serves a public need such as public transport, the construction of roads, communication services or utilities such as electricity and water (Parker, 2012:11).

2.3   SERVICE ORGANISATIONS IN THIS RESEARCH STUDY

A brief background history is offered in the section that follows to provide insight into the three service organisations that formed part of this research study.

2.3.1   Power Group

Power Group is one of South Africa's largest privately-owned construction organisations. Power Group is committed to contributing towards black economic empowerment and housing. The organisation boasts Batho Pele principles and a "people first" culture they have adopted. They

claim the adoption of these principles promotes respect between employees and towards customers. (Powergrp, 2015: **online**).

Since 1983, Powergrp (2015: **online)** assert they have built homes for people across South Africa. The organisation has also built schools, emergency centres, shopping malls, office blocks and warehouses to improve the lifestyle of the general public and to grow businesses. They have also constructed roads and structures for municipalities, farmers, film studios and golf estates. The taxiways and runways at OR Tambo, Cape Town International and East London airports were constructed by Power Group.

Powergrp (2015: **online**), add they operate across Southern Africa from regional offices in Cape Town, Port Elizabeth, Centurion and Swakopmund (Namibia). The organisation is a level two B-BBEE contributor; ISO 9001 certified with a CIDB 9CE, GB and SB Grading. This grading is the highest grading available in South Africa (Powergrp, 2015: **online**). A CIDB 9CE, GB and SB grading is issued by South African Bureau of Standards (SABS). SABS is a national institution for the promotion of quality and the maintenance of standardisation associated to rendering services (SABS, 2017: **online**).

Powergrp (2015: **online**), maintains a commitment to strive to constantly improve everything they do. They have key commitments to guide them to delivering more than what is expected to their customers. The commitments include purpose, vision, caring for people, reliability, quality, professionalism and ethics. To support this, Power Group has adopted a ISO 9001:2015 quality management system that is risk based with the aim to improve its services continuously.

2.3.2   Department of Water and Sanitation in the Western Cape

The Department of Water and Sanitation (DWS) strives to ensure that all South Africans gain access to clean water and safe sanitation. Consequently, the DWS promotes effective and efficient water resources management to ensure sustainable economic and social development (DWS, 2015: **online**).

The maintenance of quality water supply is a crucial element to sustainable socio-economic development and the eradication of poverty. Therefore, it is regarded as a critical function in South Africa. The importance of DWS's function is South Africa is highlighted by the fact that agriculture contributes 60% towards the South African economy and irrigation is essential for agriculture (DWS, 2015: **online**).

The DWS's legislative mandate is to ensure that the Western Cape's water resources are protected, managed, used, developed, conserved and controlled. They fulfill this via the effective delivery of safe water supply and sanitation. In addition to function of supplying water and sanitation, DWS (2015: **online**), states the DWS is primarily responsible for the formulation and implementation of policy governing this sector. Risk management takes place within the quality management system of the DWS to continuously improve the services they provide with the goal of meeting the needs and satisfying their customers (DWS, 2015: **online**).

2.3.3   The City of Cape Town's Electricity Department

The City of Cape Town's Electricity Services Department (ESD) distributes electricity to residential, commercial and industrial customers situated largely within the southern part of Cape Town. In doing so, ESD provides the necessary link between the electricity supplier and the consumers that buy and use electricity.

To transport electricity from the supplier to consumers, ESD needs to construct and maintain the specialized equipment required for the transport of the electricity along the high voltage transmission lines. The transmission lines carry electricity from the country's power stations in the Northern Province and Mpumalanga to Cape Town. This ensures customer's requirements are met; namely the supply of domestic electricity and public lighting; including street lighting.

The literature reviewed on the three service organisations demonstrates their focus on and commitment to service improvement, quality and customer satisfaction.

2.4   RISK MANAGEMENT WITHIN QUALITY MANAGEMENT SYSTEM

In the results of an assessment Pertersen, Nussel and Hamer (2014:20) conducted on risk management as a component of quality management, they state that risk assessments form part of quality management system requirements. Similarly, Pellettieri (2015:33) is of the opinion that "assessments" are a component of risk management. Moreover, he articulates it is advantageous to include risk assessments as part of the quality management system to improve planning in business. It is understood that the views of the above-mentioned authors are the same, namely risk assessments is a component of risk management within quality management. Thus in this chapter the three selected organisations were theoretically evaluated prior to the collection of data to determine the extent of risk management they exercise within the quality management system. The theoretical evaluation is presented for each separate organisation in section 2.4.2 below.

2.4.1   Quality management in service organisations

Natarajan (2017:3), offered a description that a quality management system is a collection of business processes focused on meeting customer requirements reliably as well as enhancing their satisfaction. Organisations can use a standard such as ISO 9001:2015 to manage quality. This author further stated that a quality management system is aligned with an organisation's purpose and strategic direction. All of the three service organisations selected for this study have adopted ISO 9001:2015 to manage quality in their organisations.

Al- Hakim (2006:16) and Ho (1999:131) express their opinions that the widespread interest in using quality management to improve organisational performance first started in the manufacturing sector. It was only later that it spread to service organisations. These authors agree that many organisations use quality management not only to assure the quality of their product or service, but also to to improve their organisation's performance. Such organisations meet customer needs while remaining economically competitive. They vie that automated processes afford an advantage to an organisation, however state most services in particular are traditionally still manual labour-intensive. As such quality management presents more challenges in service organisations than in manufacturing organisations due to the human feature of services. The

authors concede though there can never be a substitute for high-quality personal interaction between service employees and customers (Al- Hakim 2006:16 and Ho 1999:131). There are however several factors and events that could have negative consequences for an organisation and consequently prevent the organisation from achieving their quality objectives, therefore risk management during quality management is needed.

2.4.2   Risk management in service organisations

Boyle (2015:228) asserts the effective management of risk is considered to be a critical element of good governance in service organisations. He argues that the manner in which uncertanties are handled in service organisations has implications on strategic and business planning objectives. In addition, it can potentially also affect the relationship with stakeholders and have an impact on the control of work programmes and activities. Aven and Renn (2010:3), are of the opinion that risk refers to uncertainty about an event or situation with respect to something that human's value.

Harris (2005:407), avers that in order for risk management in service organisations to be most effective, the management of risk should be part of the organisation's culture. Moreover, this author is regarded to maintain the view that risk management should be integrated into the organisation's philosophy, practices and business plans rather than be viewed or practiced as a separate program. The author contends that when an organisation succeeds in the above mentioned then risk management becomes the business of everyone in the service organisation.

2.4.2.1   Risk Management in Quality management at Power Group

In a preliminary interview with Hirst (2016) of Power Group, the view was expressed that before the formal implementation of ISO 9001:2015, Power Group had a risk committee that assess business risk. This risk committee was chaired by the CEO. He reported the risk committee enjoyed a prime focus for the organisation, since the management of the organisation realised that unattended risk presented a significant threat to the quality of their service. Consequently, they believed this had a positive impact on customer satisfaction. Hirst (2016) mentions that the organisation subsequently adopted ISO 9001:2015. He highlights that ISO 9001:2015 is a risk

based approach to quality management, and therefore was consistent with the organisation's position on risk since compliance to ISO 9001:2015 facilitates risk management in the organisation.

At present, Power Group has an ISO 9001:2015 certified quality management system. One of the areas that involve risk management at Power Group according to Hirst (2016) include Health and Safety (OHAS 18001). Preliminary examination revealed that the management of health and safety in particular presents an area that exposes the Power Group to several potential significant risks (Hirst, 2016).

Hughes and Ferrett (2015: 4) maintain an opinion that health and safety is well recognised as an important component of the operations in many organisations. Adequate health and safety in an organization is not only important for the protection of people from harm, but it also has a financial impact since inadequate health and safety measures result in direct and indirect costs due to accidents. These authors extrapolate by adding there has been a growing concern over a decade because of the poor record of health and safety in the construction industry. They aver that a good health and safety performance is normally only accomplished when health and safety is managed effectively. If adequately managed significant risks are identified in the organisation and these risks are reduced by adopting appropriate high quality control measures (Hughes & Ferret 2015, 4).

Power group is a construction organisation. Preliminary examination revealed that before the organisation they employ workers that might not have done road works, concrete work or worked in trenches before they make them aware of the risks and hazards most importantly the safe work procedures (Hurst, 2016).

The implementation of safety, health, environment and quality management system is not only to improve safety and health of workers but also to assist the organisations to improve quality of their product and services as well as the environment conditions dominant in the workplace (Chaturvedi 2007:23). During the management of safety and health as mentioned above, risk must simultaneously be managed to control possible future events. The development of the risk

management framework will ensure that current risk management within quality management is evaluated at all levels.

2.4.2.2   Risk Management in Quality Management at DWS

In preliminary interviews conducted at DWS, Mxi (2016) confirmed that one of DWS's most important functions is to build dams. This function commences with planning and thereafter the implementation of plans takes place. DWS focuses on what could prevent the organisation from accomplishing their objective in a given financial year.   Thus, there is a designated risk management unit to monitor each new project to ensure high quality, timely and cost effective completion.

Mxi (2016) affirmed that DWS has an ISO 9001:2015 certified quality management system. A function of managing quality at the DWS entails the timely recognition of which projects are going to be impossible to meet and thereby fall short of the customer's expectation. DWS believes that the implementation of integrated quality management system will from the onset ensure that risk is managed and the quality of the output is enhanced. Mxi (2016), articulated the opinion that the consequence of an integrated quality management system is the quality of the output is enhanced through the management of risk.

The major factors that have influence on the risk management within the quality management system, according to Mxi (2016) are lack of communication, limited project management skills and capital resources. These risk areas are areas that can be managed through proper quality, project and risk management in an organization.

Associated to the risk of "lack of communication", Spencer (2013:13) defines communication as the *"exchange of information between a sender and a receiver, and the perception of meaning between the individuals involved"*. Effective communication is essential for any organisation to be successful. Effective communication can provide both customers and employees with the essential tools to succeed and find satisfaction (Spencer, 2013:13). Heldman, Baca, and Jansen (2007:10), elaborates that one of the single most important characteristics of a first class project

manager is excellent communication skills. A risk management framework will assist during project management to identify project risks. These authors expresses their opinion that effective written and oral communications are the backbone of all successful projects. According to these authors projects occur to bring about a unique product, service or result. Furthermore, projects are temporary in nature and have a beginning and ending dates. Thus, project management is considered to be a discipline that brings together a set of tools and techniques to describe, organise, and monitor the work of project activities. Communication is the most important skill a project manager will utilize in the course of a project (Heldman, Baca, and Jansen 2007:41

From the above-mentioned evaluation of DWS and related service organisations it is therefore understood that a risk management framework would add value by ensuring that all significant risks faced by this type of service organisation are identified and if addressed will improve the service offered to customers.

2.4.3.3   Risk Management in Quality Management at ESD

In an interview conducted with Esterhuizen (2016) prior to the collection of data, it was revealed that at the City of Cape Town's ESD, all risk is aligned with quality management and that is ISO 9001, thus, there's an integration of quality and risk management in the organization) From the interview it was gleaned that although ISO 9001 is very important in this organisation, their emphasis on OHAS 18001 (Occupational Health and Safety) and ISO 14001(Environmental Management) takes greater priority. The occupational health and safety of their business environment and employees together with management of their environmental footprint and environmental risk impact is very critical because the safety of the the organisation's employees is first priority (Esterhuizen, 2016).

In essence, the preliminary examination of ESD highlighted that lack of communication was one of the factors affecting risk management system resulting in adequacies (Esterhuizen 2016). This chapter foregrounds a few of the factors that were uncovered during the examination of the research environment, however the intent of this overall research study is to uncover all the factors

that affect the risk management system within the quality management system resulting in inadequacies.

On the basis of the above-mentioned literature that was reviewed it is appears that all three selected organisations are firmly committed to the continually evaluation of the risk management system within the quality management system. The risk manager in each of the selected service organisations ensures that risks are identified, analysed, evaluated and treated. Thereafter, the risk manager advises the organization on all potential risks. After the risks have been identified and threats have been assessed, plans are put in place for in case things go wrong and the risk manager decides how to avoid, reduce or transfer the risks.

If the aforementioned risks are not addressed it is presumed the consequence would be regarded as inadequacies. Inadequacies refer to lack of quality that is required. Lack of quality that is required can also be seen as gaps in the risk management system. Overlooking risks facing the organization can result in adequacies or gaps in the risk management system. Thereby it may be surmised that organisations demonstrate their commitment to manage risk in order to improve their services and satisfy their customers. Against this backdrop, it is considered, a risk management framework would be of value to service organisations, as it would serve as an instrument to improve their performance by enhancing their quality and risk management to avoid adverse effects.

2.5   THE NEED FOR A RISK MANAGEMENT FRAMEWORK

Masters (2014:9) describes a framework as a structure that supports and provides functionalities or solutions to a particular problem area. Consistent with Masters (2014:9)'s definition, a risk management framework defined by Borodovsky and Lore (2000:587), as a combination of strategy, process; infrastructure and environment. A framework helps organisations make intelligent risk-taking decisions and thereafter helps them monitor the outcomes of those decisions.

Importantly Borodovsky and Lore (2000:587) point out that an integrated risk management framework ensures the identification and a steadfast awareness of all significant risks faced by an

organisation. These authors add that a framework allows the development of consistent risk measures and proper management controls. Furthermore, an integrated risk management framework integrates leading industry practices and ensures best management throughout the organisation. The author's opinion is supported by Hopkin (2014:62), who asserts that the risk management framework sets the background in which risks are managed in an organisation, in terms of how they will be identified, analysed, controlled, monitored and reviewed. Drawing from this, it is surmised that a risk management framework must be integrated into other management processes, and must be done systematically across all levels of the organisation for it to be successful.

The literature reviewed in this chapter led this research to believe that a development of a risk management framework is essential to provide guidance on of the risk management process. A risk management framework assist with the assessment of, monitoring of and response to risk identified to ensure that service organisations maintain effective, efficient and transparent systems or risk management.

From the literature reviewed it is believed the framework should incorporate the requirements of the Batho-Pele principles. Batho-Pele principles are principles that are aligned to the constitution which require the public servants to be polite, open, transparent and to deliver good service to the public (Richter and Burke 2007:175). In addition to this ISO 9001 and ISO 31000 considerations should also be included as they concern risk management. The main objective of the risk management framework is to support service organisations when improving their organisational performance through the management of risk. Thereby it is believed they will enhance the quality of the service they provide, while simultaneously managing risk and in doing so avoid adverse effects to the quality of the service they provide their customers.

An effective risk management framework balances the infrastructural aspects of risk management such as roles, responsibilities, accountabilities, policies, methodologies, controls and information tools (gleaned from literature review) with the more qualitative aspects of risk management such as culture, training, awareness and appropriate behavioural reinforcement (gleaned from data analysis) (Borodovsky & Lore 2000:587). Therefore the framework proposed by this research

study aimed to incorporate all of the critical success factors, both infrastructural and qualitative as identified in the selected service organisations reviewed (Hopkin 2014:62).

2.6   CONCLUSION

It would not be possible to make significant quality improvement in the field of risk management and quality management without a thorough evaluation and understanding of the current quality management and risk management in the selected service organisations in the Western Cape. It was therefore very important to conduct an extensive and thorough analysis of the research environment in order to outline the direction the research should take. This analysis of the research environment highlighted the necessity for the development of a risk management framework that will provide a mechanism that can be employed by service organisations in the Western Cape in order to make significant quality improvements.

Literature reviewed on the three service organisations clearly demonstrated that their focus is on service improvement, quality and customer satisfaction, however they are experiencing challenges. Consequently, the development of an improved plan to change the current risk management system within the quality management system, from the preliminary review of selected service organisations, was deemed necessary. The preliminary review led the research to conclude there is a need for the development a risk management framework that will ensure that all significant risks faced by an organisation are identified and adequately addressed. It is believed that the application of such a risk management framework will also assist service organisations in the Western Cape.

It is presumed that an adequate risk management framework will advise in all components of risk management such as process assessments, monitoring and the response required to ensure that service organisations maintain effective, efficient and transparent risk management system. Through the development of such a framework, the main objective of this research study is met. Therefore the risk management framework developed by this study is to support service organisations with the improvement of their performance, by enhancing their risk management within quality management system and ultimately satisfy their customers.

This topic of quality management has been explored in-depth in the next chapter. A detailed assessment of the process of risk management within the quality management context is provided in the next chapter under quality related topics. This is done to integrate current theoretical knowledge with the methodological assessment of the risk management within the quality management context in the selected service organisations in the Western Cape presented in chapter two. On the basis of these detailed assessments of the process of risk management within the quality management will be presented, a research design was constructed and framework developed to support service organisations with the improvement of their performance.

CHAPTER 3: LITERATURE REVIEW

The previous chapter directed the research lens at the context in which this study took place. The purpose of the literature assessment in this chapter is to provide a detailed overview of risk management within the quality management context, with the ultimate undertaking to develop a risk management framework.   Relevant available literature was therefore reviewed under following associated topics:

- ➢ Importance of quality management system,
- ➢ The risk management system,
- ➢ Evaluation of current risk management,
- ➢ Employee and management perception of risk management,
- ➢ Factors that most affect risk management resulting in inadequacies,
- ➢ Evaluation of inadequacies in a risk management system and,
- ➢ Development of an improved plan to current risk management system.

3.1   IMPORTANCE OF QUALITY MANAGEMENT SYSTEM

Rocha-Lona, Garza-Reyes and Kumar (2013:2), portray a quality management system as an integrated business approach. They refer to it as an "approach" since functions of the management of quality include the planning and arrangement of quality management models and methods across an organisation, ensuring that the quality management system aligns itself to the business strategy of the organisation.

In addition, these authors express the opinion that it is of major importance that organisations consider their customer needs as well as their own resources when they strategically plan, develop, deploy and evaluate their quality management system in order to identify the factors that affect their quality management system. The aforementioned factors referred to by authors are those that result in inadequacies in the system and therefore represent barriers to the development of an improved plan of changes to their current quality management system.

Derived from the above-mentioned, the purpose and the goal of the quality management system is to ensure that 'the desired' and 'the specified' quality of products and services is achieved. The quality of a product or service is the desirable combination of all features and attributes that satisfy the needs and expectations of the customer (Willborn, 1989:3, Nanda 2016:73). These authors point out that the customer's confidence in the delivery of this quality rests on the reputation and quality image of the supplier, therefore customer satisfaction plays a significant and influential role within an organisation.

Rocha-Lona, Garza-Reyes and Kumar (2013:128), argue that a quality management system is the most important system that an organisation requires because the quality management system assists the organisation in the review of their operations, products and services. Thus, one objective of the quality management system is regarded to be the identification of areas that may require quality improvement. The authors state that organisations cannot afford to ignore quality-related issues. To this end, it is understood that an organisation's quality management system should ideally be aligned with that organisation's purpose and strategic direction.

The implementation phase of a quality management system is argued by Willborn (1989:123) and Nanda (2016:74) to be a crucial phase in any organisation because they vie "*it is an art to manage people and a science to have a process approach to quality*" Therefore the implementation of quality management system needs to be planned and controlled properly. These authors report that there are three guidelines that when followed, are able to assist in preparation for the implementation of a quality management system.

The first guideline Willborn (1989:123) and Nanda (2016:74) offer is an implementation plan is required to launch the quality management system. The second guideline is a quality manual must be developed, that provides the most important information and documentation about the system. Finally, the last guideline is the workshops be conducted that introduce the quality management system to the staff.

Moreover, Willborn (1989:123) and Nanda (2016:74) argue that it is important to note that the implementation of the quality management system is not a once off event but a continuous degree of implementation, which occurs customarily with every major change in the system.

With reference to Willborn (1989:123) and Nanda (2016:74)'s purported first guideline mentioned above, namely the implementation plan, the purpose of an implementation plan is to assist in the effective introduction of a new or revised quality management system. This ensures that the organisation has an effective quality management system. One of the internal benefits of an effective quality management system is an understanding that quality is everyone's responsibility not just the responsibility of the quality department. (Willborn, 1989:124, Nanda, 2016:76).

Rocha-Lona, Garza-Reyes and Kumar (2013:128), maintain a view that during implementation, organisations require decisive leadership who can make effective decisions. Failure to provide such leadership can threaten quality management system implementation. In addition to this, empowering employees, improving processes, instituting a quality oriented culture and promoting teamwork ethics are also very important factors that Rocha-Lona, Garza-Reyes and Kumar (2013:128) believe need to be understood and be in place when implementing a quality management system. Since the implementation of a new quality management system can make the employees uncomfortable, management must maintain an awareness of this. The implementation procedure can take employees out of their comfort zone and away from institutionalised processes. Support from operational and executive management from the outset is thus critical to the implementation of a quality management system. It is important to ensure that the implementation of a quality management system in an organisation is carried out in an effective and efficient manner with the goal to reduce risks.

With reference to the second guideline, namely the development of a quality manual, as put forward by Willborn (1989:123) and Nanda (2016:74), it is simultaneously important to note that the quality manual should be updated every time that significant changes are made to the system. Both Willborn (1989:128) and Nanda (2016:77), elaborate on this with the explanation that the quality manual's purpose is to document the quality management system and its individual procedures, to inform all the organisation's employees about quality management system

implementation, to facilitate training and auditing and to serve as a reference document for the entire organisation to use.

Elucidation on the third guideline advocated by Willborn (1989:123) and Nanda (2016:74), is that workshops provide the necessary updating and training to sustain a quality management system. The workshops are designed with the purpose of ensuring proper planning, execution and follow-up of workshops takes place. The integration of these workshops with other educational and training programs facilitates the operation of the quality management system. Topics of other workshops may include the simplification of the task coordinator, auditor and instructor training and workshops on the facilitation and effective implementation of new or revised system and procedures (Willborn, 1989:133, Nanda, 2016:77).

The three guidelines provide organisations with assistance in preparation for, and the implementation of a comprehensive and effective quality management system with a purpose to ensure customer satisfaction. The importance of customer satisfaction is emphasized by Peterson, Nussel and Hammer (2014:20) who vie that the quality management system aims to satisfy zero defects and the customer. These authors claim that the control of process variance, reliability, security and fit for purpose are also objectives a quality management system is aimed at satisfying.

A critical assertion made by these authors is, to ensure the quality management system is able to control process variation and thereby secure 'zero defects' a degree of risk management is required. Peterson, Nussel and Hammer (2014:20), argue that when adopting to a risk perspective, it becomes evident that quality management is naturally strongly connected to risk management because the definitions of 'quality' become risk of defects, risk of customer dissatisfaction, risk of uncontrolled process variance, risk of product reliability, risk of security breach, risk of lack of fitness or failure to achieve objectives. In the risk domain, the focus is on the risk to achieving the objectives. This is simpatico with the focus of quality. The authors add that risk management is applied to control the risks and enhance the likelihood of achieving the objectives. The focus of this study is now directed toward the link between quality and risk as well as the basic elements of risk management and has established that ISO 9001:2015 evolved to incorporate risk management.

ISO 9001:2015 is the fifth iteration of the ISO 9001 standard. A brief history of ISO 9001 revisions which transpired of the three decades follows:

- ISO 9001:1987 is the first publication of ISO 9001,
- ISO 9001:1994 is a minor revision to the standard,
- ISO 9001:2000 is a significant revision of the standard with a focus on continual improvement, customer satisfaction, leadership, and process management,
- ISO 9001:2008 is a very minor revision with only slight changes in wording and,
- ISO 9001:2015 is a significant revision to the standard and another step away from its manufacturing origins. This revision is much more of a model for managing and improving an organization, with risk lying at the heart of the standard. It renders an excellent framework for long-term success and customer satisfaction (Cochran 2015: 4).

The new ISO 9001 is risk based and that is indicative that there is a relationship between quality management and risk management (Cochran 2015:5). Furthermore, the author states that the risks and the opportunities that an organization identifies are drawn from each organisation's unique circumstances.

3.2   THE RISK MANAGEMENT SYSTEM

Stoll (2016:2), defines "risk" as the possibility that something bad or unpleasant will happen. In ISO 31000:2009 risk management – principles and guidelines on implementation, risk is defined as the *"effect of uncertainty on objectives"* and risk management as something that *"aids decision making by taking account of uncertainty and its effect on achieving objectives and assessing the need for any action."*

Myburgh (2010:31), explains that ISO 31000 is a family of standards relating to risk management. This author found that the purpose of ISO 31000:2009 is to provide principles and generic guidelines on risk management. In addition, Myburgh (2010:31) points out that using ISO 31000:2009 can help organisations increase the likelihood of achieving objectives, improve the

identification of opportunities and threats and effectively allocate and use resources for risk treatment. This author however state that ISO 31000 cannot be used for certification purposes but can be used by any organisation to provide guidance for internal and external audit programmes. Risk based internal and external auditing programmes are concerned with providing assurance that management has actions and controls in place to meet organisational objectives, while addressing uncertainty (Myburgh, 2010:31). According to the Myburgh (2010:31) the standard is for comparison purposes with the goal of providing guidance. By comparison purposes it is meant that service organisations using the standard can compare their risk management practices with an internationally recognised benchmark, providing principles that are sound for effective management (Myburgh, 2010:31).

Hopkin (2012:2), claims that organisations face all kinds of risks which can have an impact on the outcome of their operations. He explains that these risks may potentially inhibit the aim the organisation has set out to achieve, enhance that aim or create an uncertainty about the outcomes.

Hopkin (2012:15), classifies risks into three categories namely:
- ➢ Hazard (or pure) risks,
- ➢ Control (or uncertainty) risks and,
- ➢ Opportunity (or speculative) risks.

Hopkin (2012:15), asserts that during risk management organisations will endeavor to mitigate risks, manage control risks and embrace opportunity risks.

Malleret and Cleary (2006:76), contends that well-structured risk management as opposed to risk avoidance, is central to successful corporate leadership. These authors further contend that risk management is considered today as a means to avoid or reduce risk than as a key element of strategic decision making.

It is important to accept risk instead of avoiding it as the act of acceptance allows organisations to manage the risk (Malleret & Cleary 2006: 76). This is supported by Helman (2005: 5), who claims

that the best response during a risk assessment is to accept the risk then continually monitor the risk because this type of risk management is an important component of quality management.

The process of risk management involves the identification of potential risks, analysis of them to determine those that have the greatest probability of occurrence. Thereafter the identification the risks that have the greatest impact on the project takes place and then plans are formulated and refined to help mitigate the risk's impact or avoid the risks while making the most of opportunity (Heldman, 2005:6).

Valsamakis, Vivian and Toit (2010:7) offers reasons for managing risks as being linked to the corporate objectives of survival. In addition, these authors offer the reason that corporate policy and good citizenship are factors that influence decisions. Thus, adopting a risk management system that reduces risk is of itself consistent with the general reasons for the existence of an organisation (Valsamakis, Vivian and Toit 2010:7).

Literature reviewed in this area demonstrates that risk management is very important in an organisation because by reducing risk, quality of products and services is increased. From this section of literature assessed it is understood that when risks are identified and addressed, the quality of products is positively affected resulting in improved customer satisfaction.

3.3   EVALUATION OF CURRENT RISK MANAGEMENT

The findings of research conducted by Covello, Menkes and Mumpower (2012:360), yielded a systematic way of determining how effective an organisation's current approach to managing risk is. The systematic approach that they promote considers the objectives of the organisation as well as how these objectives are expressed and communicated throughout the organisation. The overall objectives and directions of an organisation with regard to quality management are expressed in a document known as quality policy which is usually developed by management and quality experts in the organisation. These authors report that this approach leads to a realistic programme improvement for the organisation's framework for managing risk.

Perez (2012:18) claims that based on ISO 31000:2009, risk is defined as the 'effect of uncertainty on objectives. This author explains that risk is not exactly the same as uncertainty. He clarifies that risk is the potential of loss while uncertainty implies the absence of certainty of the outcome in a particular situation. Thus, the effective management of risk is of primary importance if organisations want to achieve their objectives and in so doing, satisfy the needs of their customers.

Therefore, it is of utmost importance to involve management in all stages because the role manager's play with effective management in the organisation ensures success. (Covello, Menkes and Mumpower 2012:360). The systematic approach of evaluating risk management effectiveness which was advanced by these authors is shown in Figure 3:
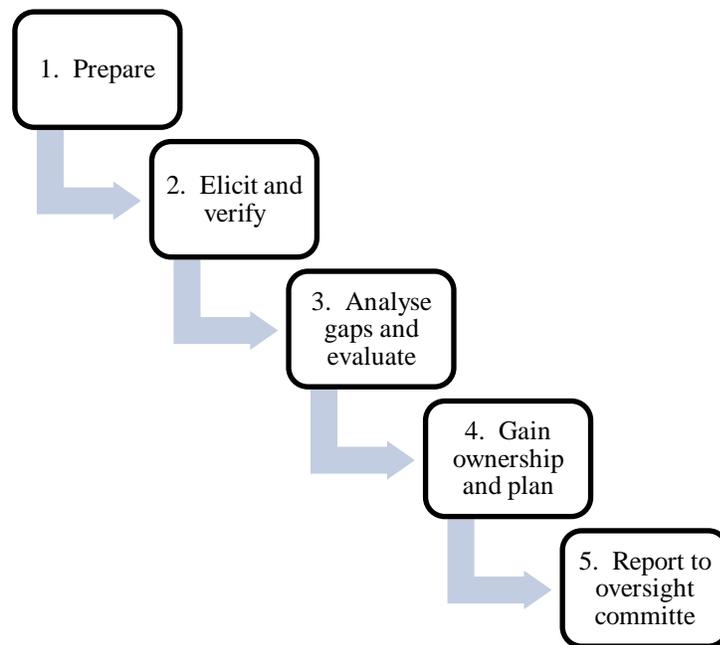
Figure 3: An approach to evaluating risk management effectiveness (Source: Covello, Menkes & Mumpower 2012:360)

The key focus of this research study is operational risk management within quality management system, however risk and uncertainty, project risk, enterprise risk management (ERM), risk management and compliance (GRC), are also introduced and reviewed in the sections that follow:

3.3.1 Risk and uncertainty within quality management

Risk is a consequence of action taken in spite of uncertainty. Uncertainty is a potential, unpredictable outcome that is not controllable (Heldman, 2005:150). Uncertainty exists in decision situations where the decision maker lacks complete knowledge, information or understanding about the decision and its possible consequences. The perceived level of uncertainty depends on information that an individual can use to evaluate the likelihood of outcomes and the individual's ability to evaluate this information (Valsamakis, Vivian and Toit 2010:33). Thus, uncertainty embodies two elements, namely, firstly whether an event will occur and secondly, if the event does occur, what the outcome of the event will be.

A component of reducing uncertainty in an organisation according to Hopkin (2012:220), is the management and reduction of inconsistency in the way that risks are managed in that organisation. In addition, he expresses an opinion that reducing uncertainty is at the heart of risk management.

Valsamakis, Vivian and Toit (2010:33), opine that risk and uncertainty are related to one another. However, these authors concede that although risk and uncertainty are related it is important to note the difference between them. Risk is when the outcome is unknown but the event that results in the outcome is known and uncertainty is when the outcome is unknown and the event is also unknown. These authors agree that the perception is that uncertainty gives rise to risk. Where the outcomes of events are surrounded by uncertainty, risk will be present (Valsamkis, Vivian & Toit 2010:34). Thus, where the outcome of the quality of services and products in an organisation is uncertain, then risk will be present.

Enterprise risk is seen as a manager of uncertainties in an organisation (Olson & Desheng 2010:23).

3.3.2 Operational risk management in quality management

Operational risk is the risk of 'loss'. The 'loss' results from failed internal processes, people and systems or from external events (Reuvid 2005:130). Young (2014:6), argues that it is necessary

to look at the sources of risk and the subsequent effects of operational risk as illustrated in the Table 1:

Table 1: Causes and effects (**Source:** Young, 2014:6)

Risk factor/cause	Effect
People Loss of key staff	Loss of revenue due to a shortage of experienced staff to do the work
Process Incorrect data input	Loss due to a shortcoming in the process used to validate data
Systems System downtime	Loss of business due to the fact that new deals could not be captured and processed in time
External factors Floods	Loss of buildings due to floodwater

Reuvid (2005:130) and Berrogi and Wallace (2012:6), share the opinion that the management and mitigation of the operational risk of an organisation is a significant challenge for senior managers because they are the decision makers. These authors add that operational risk should be an organisation's priority concern when addressing risk.

According to Young (2014:33), a typical operational risk management process includes the elements illustrated in the Figure 4:
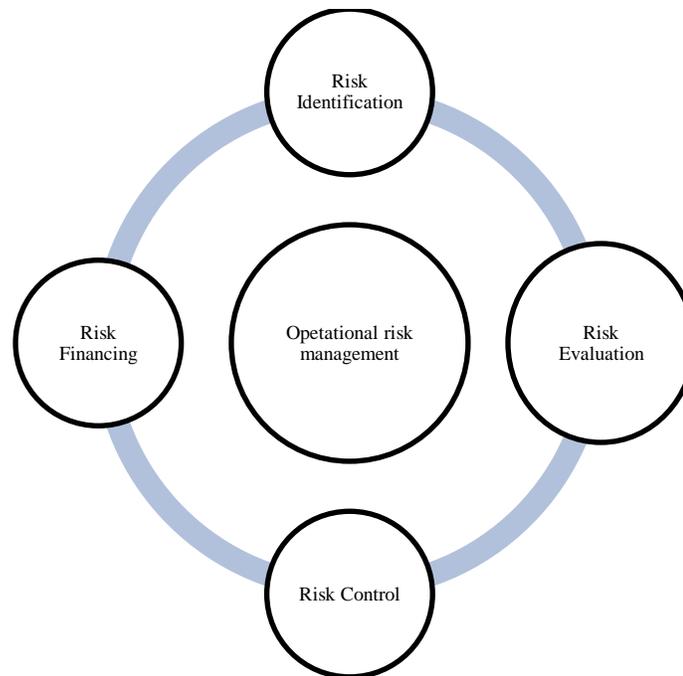
Figure 4: Operational risk management process (**Source:** Young (2014:33)

Effective operational risk management enables transparency about the degree of operational risk exposure which allows senior management to make strategic business decisions that are fully informed of the operational risk implications (Girling, 2013:10). According to Hoffman (2002:113), effective operational risk management is an extention of quality products and services, thus quality management. This author claims that quality concerns are critical to many services and products but especially in service organisations where operations are diversified and sophisticated and thus making their risk profiles more complex.

Evaluation of Reuvid (2005:130) and Hopkin (2012:311)'s research found both authors emphasise that well-run organisations have management processes for mitigating all operational risks. This contention is supported by Beroggi and Wallace (2012:6) who state that operational risk management framework includes steps for identification, measurement and monitoring, reporting, control and mitigation frameworks for operational risk.

The major objective of this research study is to develop a framework. A framework provides a structure for implementing operational risk management (Blunden & Thirlwell 2013:47). These authors add that a framework for operational risk assists service organisations with the

identification, assessment, measurement, monitoring and management of their exposure to operational risks. The framework will guide service organisations to improve their risk management techniques which in turn reduce their operational risk exposure and mitigate losses resulting from operational failures. Ultimately, this will improve the quality of the services rendered by an organisation.

Operational risk management within quality management in service organisations play a critical role because a quality management system provides the necessary framework for continuous improvement of product and service quality and increases customer satisfaction (Blunden & Thirlwell 2013:48).

3.3.3 Project risk management within quality management

Heldman (2005:3) offers that all projects begin with goals. The purpose of a 'project' is to meet and satisfy the goals the customers agreed upon when the project was undertaken. A risk is anything that prevents one from achieving goals.

Kendrick (2015:25), claims that by dealing with uncertain project events in a proactive manner, the impact of project threats will be minimised and simultaneous opportunities can present themselves. From this it is understood that the benefits of risk management in projects is vast. Dealing with uncertain project events can lead to the project being delivered on time, on budget and with the quality results that the customer expects. Thus risk management and quality management can be applied successfully in a project to prevent failures (Kendrick, 2015:25).

Fulton, Lyon and Goudreau (2014:292) offer advice in the form of ten sequential steps on how to successfully apply risk management in a project namely:

- ➢ **Step 1:** Make risk management part of the project,
- ➢ **Step 2:** Identify risks early in the project,
- ➢ **Step 3:** Communicate about risks,
- ➢ **Step 4:** Consider both threats and opportunities,

- ➢ **Step 5:** Clarify ownership issues,
- ➢ **Step 6:** Prioritise risks,
- ➢ **Step 7:** Analyse risks,
- ➢ **Step 8:** Plan and implement risk responses,
- ➢ **Step 9:** Register project risks and,
- ➢ **Step 10:** Track risks and associated tasks.

In order to ensure that risk management in a project within quality management is successfully applied, Douglas (2010:27) recommends continuous improvement be standard practice during project risk management in organisations. Therefore, it is important to note that upon successfully implementing risk management in a project, risk management can always be improved by measuring the effects of risk management purposes and continuously implement improvements.

Associated to continuous improvement during quality management, Fulton, Lyon and Goudreau (2014:292) are of the opinion that a quality plan may be used to examine various quality improvements and control items within a project to ensure successful project risk management. Quality and risk management in projects is thus important in an organisation for the management of quality improvements in projects by minimising risk and uncertainty.

3.3.4 Enterprise risk management (ERM)

Hampton (2009:18) defines enterprise risk management as the *"process of identifying major risks that threaten an organisation, predicting the importance of those risks in business processes, addressing the risks systematically, addressing the risks in a coordinated plan, implementing the plan and holding key individuals responsible for managing critical risks within the scope of their responsibilities"*.

Lam (2014:11) and Moeller (2011:48), share the opinion that in general, organisations strive to create value for their customers. They believe that enterprise risk management is implemented in organisations with the goal of creating value for customers in mind. These authors hold the view that enterprise risk management is a structured and disciplined approach that aligns strategy,

processes, technology and knowledge with the purpose of evaluating and managing the uncertainties the enterprise faces, as it creates value. Thus, the goal of enterprise risk management is to create, protect, and enhance customer value by managing the uncertainties that could either negatively or positively influence achievement of the organisation's objectives (Lam, 2014:11& Moeller 2011:48).

Hampton (2009: 5), avers that all different risks at the same organisation are related to each other. One risk affects others. This author believes that risk is ever-present in all areas of life and that risk management is something that we must all do. This author adds that risks cross the artificial walls of day-to-day operations, that people can be too close to risk or just too busy to recognise impending critical problems.

Hampton (2009:5), argues that there is a critical need for enterprise risk management due to the fact that it supports the survival of organisations. The author claims that this is done as firstly, enterprise risk management provides better chance to identify, mitigate, avoid and treat risks that could close organisations down. Secondly, it provides stability in creating, distributing, financing and selling products and services. Thirdly, it adds to confidence that the board and CEO are meeting community, social and ethical responsibilities. Finally, enterprise risk management helps build good relationships with managers.

Enterprise risk management is a holistic integrated, forward-looking, and process-oriented approach to managing all key business risk and opportunities with the goal of increasing customer value (Segal, 2011:27). When enterprise risk management is regarded as sound business management in an organisation, it becomes a very important part of the organisation's operations. There are some opportunities associated with integrating enterprise risk management in ongoing management activities and these opportunities include strategic planning, total quality management and six sigma, business continuity, corporate governance and risk disclosures (Olson & Desheng 2010:23).

3.3.5 Governance, risk management and compliance (GRC)

According to Steinberg (2011:1), governance is the process by which organisations manage and mitigate risks. This author adds that risk management enables organisations to evaluate all relevant business risks and controls and monitor mitigation actions in a structured manner. Furthermore, the author concedes that compliance ensures that organisations has the processes and internal controls to meet the requirements imposed by governance.

A summary of Khan and King (2012:56)'s views gives rise to the following list that that ties enterprise risk management and governance, risk management and compliance together, namely:

➢ Improves information flows between the company and board regarding risks,
➢ Enhances discussions of strategy and the related risks between executives and the board,
➢ Monitors key risks by accountants and management with reports to the board,
➢ Identifies acceptable levels of risks to be taken and assumed,
➢ Focuses management on the risks identified,
➢ Improves disclosures to customers about risks taken and risks yet to be managed,
➢ Reassures the board that management no longer manages risk individually and,
➢ Knows which of the organisation's objectives is at greatest risk.

The flow of risk information to the board is critical in improving governance, risk management and compliance with the goal of increasing quality of services and products (Khan and King 2012:55).

3.3.6 Mitigate, avoid and transfer (MAT)

Improving governance, risk management and compliance can increase the quality of services and products in service organisations by mitigating, avoiding and transferring the risk.

Literature reviewed by Passenheim (2010:30), defines three alternatives in risk response as follows:

- ➢ Mitigate,
- ➢ Avoid and,
- ➢ Transfer.

The above mentioned are three optional techniques used by organisations to manage risk by either simply avoiding it, transferring risk by shifting responsibility to another party and reducing vulnerabilities (Gibson 2014:23).

According to Passenheim (2010:30), mitigating risk is the reduction of the impact and probability of occurrence. This author states that upon detecting the risk, the probability of the occurrence of the risk could be reduced or the impact of the risk that has occurred could be minimised. A risk practitioner would firstly undertake to reduce the probability of the risk and when that fails the risk practitioner would undertake to reduce the impact of the occurence. Reducing the impact is more expensive (Passenheim 2010:30).

Passenheim (2010:30), avers that another approach is avoiding risk, which is a drastic approach due to the fact that the whole business plan would have to be changed, is to avoid a particular risk. Transferring risk means moving it but not eliminating or dampening it (Passenheim 2010:30).

The three strategies of mitigating, avoiding and transferring risk are basic approaches towards dealing with risk that can help in setting up a basic framework for risk management.

3.3.7 The importance of organisational culture during risk management

Steinberg (2011:05), believes that a key component to any risk management project is to identify, define and assess organisational culture. This author further highlights his belief that it is important to do so because for adequate risk management a sound understanding of the underlying motivations and assumptions that drive the organisation one is working with is required. Understanding culture is a component of this. The motivations and assumptions that this section is referring to are connected to quality and risk management.

Culture is understood as the professional atmosphere of a company put together with its values, customs and traditions (Steinberg 2011:05). Furthermore the author adds that ethical behavior and management integrity are consequences of the corporate culture and incorporates ethical and behavioral standards and how these are communicated and strengthened.

Maintaining a culture for managing operational risk is of utmost importance. Young (2014:41), states that entrenching the latest approaches to managing operational risk means getting people to change the way in which they work. The importance of this is underpinned by his belief that the manner in which an organisation approaches this is dependent on the organisation's culture. As such Young (2014:41) argues that sound risk management requires an appropriate and strong culture.

On the basis of the above-mentioned a risk management culture needs to be established throughout the organisation to ensure that all employees are actively involved. This author adds that consistent application of the principles of managing operational risk are required to foster a risk management culture. To identify the value which the management of operational risk can add to the organisation the below mentioned principles can be applied

- ➢ Involve senior management in the operational risk management process by creating an operational risk governance model which includes an independent operational risk management function,
- ➢ Develop a comprehensive definition for operational risk aligned with the business of the organisation,
- ➢ Ensure that shareholders benefit from the risk management function,
- ➢ Ensure that business units own the risk and are responsible for the outcome of the risk management process,
- ➢ Ensure that the operational risk management process is practical and easy to understand,
- ➢ Emphasise training and awareness as means of driving behavioural change throughout the organisation and strengthening the risk management culture,
- ➢ Incorporate the operational risk process in other day-to-day processes and,

➢ Establish top-down and bottom-up communication for operational risk (Young, 2014:41).

Steinberg (2011:6), contends that top management plays a very important influential role in the corporate culture of an organisation. Furthermore the development of performance targets that clearly considers the quality of the output and information that flow to other business areas produces a culture of personal responsibility and involvement in managing operational risk (Young 2014:42).

Therefore establishing an appropriate culture to manage operational risk within an organisation is not an easy task but a necessary one. Moreover, the determination of employee and management perception on risk is consequently also of utmost importance if an organisation wants to evaluate the current risk management system of an organisation (Young 2014:42).

3.4 EMPLOYEE AND MANAGEMENT PERCEPTION ON RISK

Risk perception according to National Safety Council (2014: **Online**), refers to an individual being able to discern a certain amount of risk. Rohrmann (2008: **Online**), offers that risk perception refers to people's judgements and evaluations of hazards they are or might be exposed to. In addition Rohrmann (2008: **Online**), explains that such perceptions steer decisions about the acceptability of risks and thus have a core influence on behaviors before, during and after a disaster.

Research conducted in 2014 by the National Safety Council (**Online**) on the topic of employee and management perception of risk suggests that to discourage risk-taking behaviors, public campaigns and workplace programmes must target the perception of risk in organisations. The National Safety Council (2014: **Online**), categorised factors that affect risk perception into three levels namely:

- ➢ **Macro level:** defined as levels referring to risk factors that are structural or institutional in nature.
- ➢ **Meso level:** defined as levels at a peer-to-peer or community level.
- ➢ **Micro level:** defined as levels at an individual psychological level.

This importance of the above-mentioned is that it demonstrates that employee and management perception on risk is measurable

3.5 FACTORS THAT MOST AFFECT RISK MANAGEMENT RESULTING IN INADEQUACIES IN THE QUALITY MANAGEMENT SYSTEM

McLinden *et. al.* (2010:101), assert that the management of risk is recognised as a very important part of effective overall management practice. Furthermore these authors assert that the management of risk involves a repetitious process that consists of six steps that when undertaken in sequence provides a very effective decision-making framework.

Inadequacy is described by Ricci (2014:97) as the quality of being unequal or insufficient for a purpose. Gaps and inadequacies in risk management could the inadequacy of a risk manager to produce and deliver services on time.

McLinden *et. al.* (2010:101) argue that when risk management is regarded as something that is done in isolation from an organisation's management framework, it has a potential of affecting the outcome of risk management. This can result in inadequacies in a risk management adversely affecting quality management. The authors claim that many organisations make the mistake of treating risk management as a separate activity that is carried out in ignorance of other functions. Management and employees of the organization often view risk management as a necessary but mechanical task that consumes both time and resources (McLinden*et.al.*2010:101)

Moreover, McLinden *et. al.* (2010:101), expresses the view that the ideal way to avoid the mindset of treating risk as a separate activity is to integrate the management of risk into an organisation's everyday management practices with the intention of making risk management second nature. They highlight that a significant component of any management framework is the planning process and that this is the ideal place for the formal and systematic management of risk to begin (McLinden *et. al.* 2010:101).

Literature reviewed on this topic indicates that treating risk as something that is done in isolation in an organisation can be a major factor which can result in inadequacies in a risk management adversely affecting quality management. When the risk factor is identified, then evaluating those inadequacies easily leads to the development of a plan for changes to improve services continuously ensuring customer satisfaction. Thus it is considered to be a component of quality management.

3.6   EVALUATION OF INADEQUACIES IN A RISK MANAGEMENT SYSTEM

Risk evaluation is when one assesses and measures risk exposures that have been identified. Young (2014:61) pronounces it entails managing and controlling risks that could influence the business strategy and the achievement of objectives in a negative way.

Young (2014:60), is of the opinion that risk identification and risk evaluation are closely linked. The result of the risk identification process is analysed to serve as input for the risk management evaluation process. Furthermore, Young (2014:60) articulates risk evaluation aims to determine the potential impact of a loss event and the probability of a risk event occurrence. The author maintains that evaluating risks provides management with guidelines on what control measures are required to prevent the event from occurring.

(Young, 2014:60) points out that the link between risk identification and risk evaluation is integrated as illustrated in Figure 5.

Risk identification

Guidelines: risk identification

➢ Identify business area
➢ Identify participants
➢ Develop guidelines
➢ Facilitate process
➢ Identify inherent

Risk evaluation

3. Procedure for identifying risk and control measures

4. Detail rating of inherent risk and controls

2. Choose the method for risk identification

Guidelines: risk evaluation

➢ Determine rating scale for inherent risk
➢ Determine rating scale for controls
➢ Choose method for risk evaluation most suitable for

5. Determine residual risk

3. Identify objectives of risk identification

6. Formulate mitigating measures and action plans and action plans

Risk analysis

Figure 5: Link between risk identification and risk evaluation (**Source:** Young 2014:61)

It is noteworthy that identifying risk is a continuous process as it must be monitored regularly and new risks are continuously highlighted (Hull, 2014:139). Furthermore, a system approach is required in order to make sure that all risk types are identified and that critical, potential risks are included for further analysis (Covello, Menkes & Mumpower, 2012:246). There are methods as, listed by Young (2014:55), which exist, related to the identification of risks, namely:

➢ Workshops and interviews,
➢ Brainstorming sessions,
➢ Questionnaires,
➢ Risk process flow analysis, which involves mapping the process of the business and determining the risk exposures that exist in these processes,
➢ Comparisons with other organisations,
➢ Discussions with peers,
➢ Checklists and,

➢   Losses of history.

A further point of view expressed by McLinden *et. al.* (2010:102), is that, risk identification is a matter of asking and answering two questions, namely:

➢   What can happen that will have an impact on the organisation's objectives?

➢   How and why could it happen?

This exercise assists in evaluating inadequacies in the risk management system. McLinden *et. al.* (2010:102) in addition avers that, more questions assist in the evaluation of inadequacies in the risk management system, namely:

➢   What can happen?

➢   What are the key drivers?

➢   What are the existing controls or treatments?

➢   What is the likely impact?

➢   What are the operational influences?

➢   What might be the causal factors such as inadequacy in existing controls?

➢   Who is involved?

➢   Who is affected?

➢   How does the risk occur? Is it as a result of system failures or poor planning?

➢   It is likely that the risk will occur immediately, in the short term or longer term?

The evaluation of inadequacies in risk management system then leads to the need of the development of an improved plan to current risk management system with the goal of improving the quality management system.

3.7 DEVELOPMENT OF AN IMPROVED PLAN FOR CHANGES TO CURRENT RISK MANAGEMENT SYSTEM

Philpott and Gentz (2012:74), recognise that good governance and effective management are best achieved through the development and deployment of a comprehensible and consistent framework for management of risk within an organisation. The framework intends to ensure the following:

> ➢ There is a consistent and defensible basis for decision making at all levels,
> ➢ The organization can pre-empt and capitalize on external changes such as those involving demographics, customer's needs and government policy,
> ➢ All employees are encouraged to focus on and give priority to actions that aid and enhance the execution of strategic and project plans as well as organisation's objectives,
> ➢ The organisation is prepared for and protected from major incidents and losses,
> ➢ Tactical moves, to identify and seize opportunities are stimulated and enhanced and,
> ➢ Accountability for risks, controls, monitoring and assurance of controls is clear and not doubtful.

McLinden *et. al.* (2010:101) , found that central element of any risk management framework should be clear statements of the organisation's objectives, together with an identification of risks to be managed. If the risks are not managed the result could be poor work quality. These authors suggest that design of the particular framework be based on proper consideration of the variables that can affect its ongoing implementation. Furthermore McLinden *et. al.* (2010:101), highlights that a major aspect of any risk management framework is the need to document the process.

Because new types of risks are encountered on a daily bases, an integrated framework for a holistic approach to risk management which is part of a quality management system is required (Young, 2014:25). This author avers that the aims of an operational risk management framework are to identify and establish a structured approach to the management of operational risk. He offers the following to serve as a guideline checklist for the organisation to use to ensure that an operational risk management framework achieves its intended goals:

> ➢ The establishment of an integrated operational risk management environment,

- ➢   The development of a cultural awareness of operational risk management,
- ➢   The development of roles and responsibilities linked to risks and controls and,
- ➢   The provision of a common understanding of operational risk.

Kemp, Schotter and Witzel (2012:111), advise that a risk management framework should not replace the natural capability of people to manage risk. These authors express their opinion that a risk management framework should rather enhance good practices to ensure that the process is reliable, comprehensive and consistent. For the required objectives to be achieved an organisation will require the following:

- ➢ A set of suitable tools,
- ➢ A coherent approach to training and communicating to people so that they can use those tools in a competent and consistent manner and,
- ➢ An approach that signals and reinforces the correct behaviour and way of thinking.

Furthermore, Kemp, Schotter and Witzel (2012:112), offer typical elements of a framework. Figure 6 is an illustration of how the framework supports the integration of the risk management process.
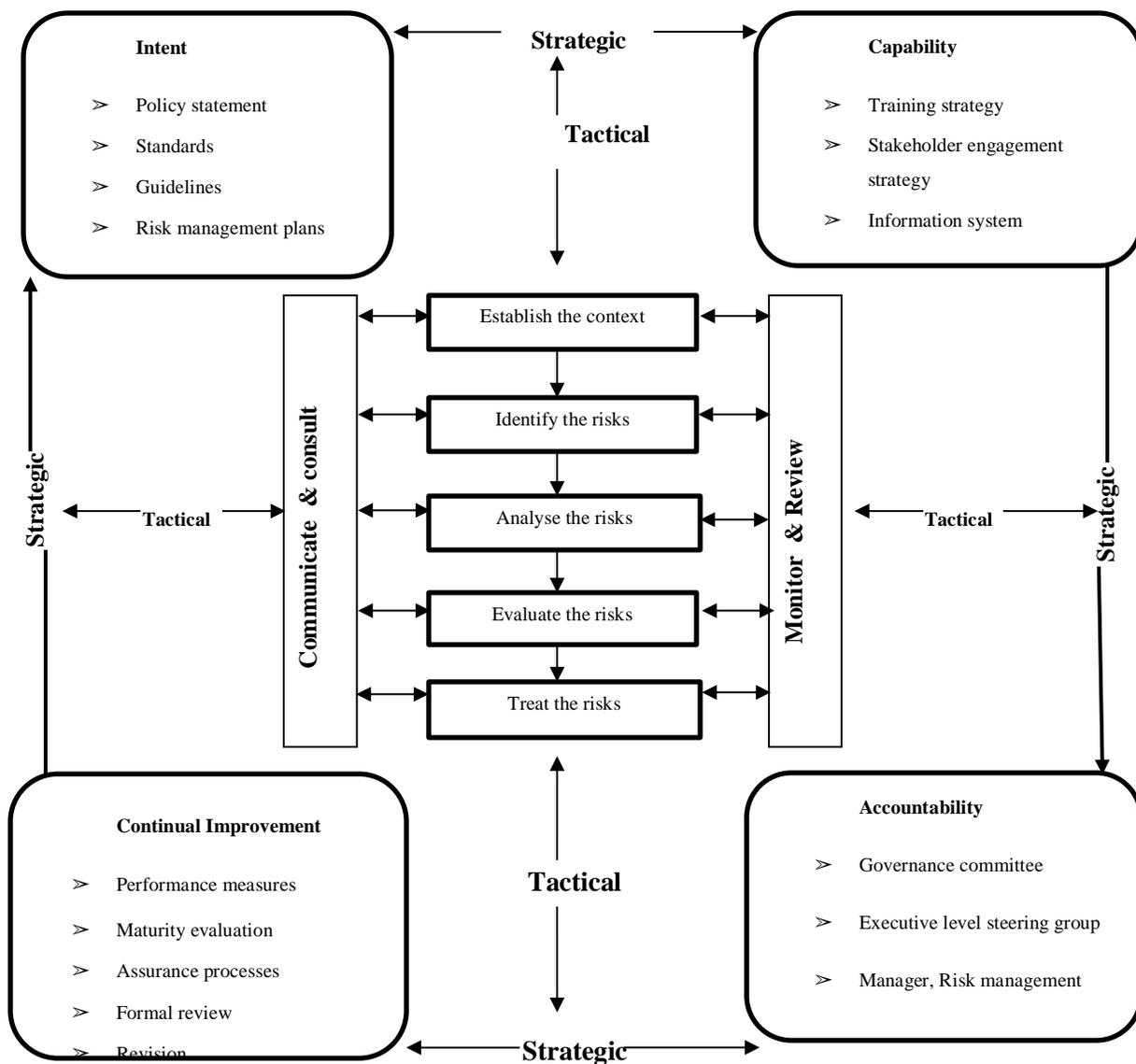
Figure 6: The framework for risk management (**Source:** Kemp, Schotter and Witzel 2012:112)

It is believed that success for enhancement of frameworks for risk management in organisations is dependent on the manner in which changes to the framework are developed and implemented (Kemp, Schotter and Witzel 2012:118). These authors further express their belief that success depends on the involvement of customers and the engagement to evaluate the existing approach in order to plan how, where and when enhancements will be made.

Kemp, Schotter and Witzel (2012:119), found that the most efficient approach to ensure success in risk management frameworks is to involve representatives of senior management in all the steps. The approach is described below as follows:

- Preparation

  This approach includes the schedule of activities and delivery dates. The documents to review are reviewed and the interview candidates are agreed upon.

- Elicitation and verification

  During this phase the manner in which risk management takes place in practice is observed and reviewed. Management's perceptions of the current approach to risk management is observed to test if it is currently viewed as effective and whether it is likely to satisfy the future needs. This observation is undertaken through a series of interviews with senior managers and employees and conclusions are drawn.

- Gap analysis and evaluation

  When conducting gap analysis and evaluation, information that has been gathered is used to conduct a detailed gap analysis. An evaluation of effectiveness using the guidelines and principles in ISO 31000 is conducted as a basis for comparison. The gap analysis examines how the organisation expresses its intentions for managing risk. This involves examining all the elements of the risk management framework.

- Gaining ownership and detailed planning

  This planning component firstly, presents fundamentals of risk and best practice risk management. Secondly, presents overall findings and assessment of the benchmark review. Thirdly, suggests improvements and enhancement strategies and lastly, presents draft enhancement plan.

- Report to the oversight committee

  During this phase the oversight committee is provided with progress reports and this provides them with confidence that the evaluation was indeed conducted in an independent manner. This also enables the members to challenge and question the outcomes.

The framework is expected to be supportive of the business operations. The framework is also going to be able to identify the risk-mitigating tools that are available to eliminate the effects of operational risk exposures.

3.8 CONCLUSION

In this chapter a holistic literature review into the current state of risk management within the quality management context was conducted. Critical features relating to the research topic and the consideration of the objectives led to the identification of the areas for literature review.

This research's literature review's purpose is to help the reader understand different aspects posed by the research on risk management framework for selected service organisations in the Western Cape. It is clear from the research reviewed that a need for the development of an operational risk management framework exists.

The next chapter will outline the research paradigm, research methodologies and design used in this study. The next chapter will also provide an explanation of the procedures, participants, data collection tools and data collection and analysis me

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

An in-depth study on literature pertaining to the current state of risk management within the quality management context was conducted in the previous chapter. This chapter proceeds with a discussion on the methodological approach adopted by this research to meet the overall objectives of this research. The objectives are to evaluate the current risk management within service organisations, to determine employee and management perception on risk management, to establish the factors that affect the risk management, evaluate the shortfalls of current risk management and to develop an improved plan for changes to current risk management. Thus, this chapter presents the research design that was used in order to achieve or accomplish this aim. The selected methodology is described detailing the broad methodological framework, data collection design, data analysis, data validity and reliability as well as ethical considerations.

4.1   RESEARCH DESIGN AND METHODOLOGY

Founded on the view of Sumser (2001:6), this study may be regarded as empirical research. Empirical research is defined as a planned process of collecting and analysing data in a systematic, purposeful and accountable manner. The term 'empirical', refers to knowledge that is obtained by the process of practical experience, experiments and enquiries (Sumser 2001:6).

Lambert and Moser-Mercer (1994:25), offer a definition for empirical research as knowledge that is gained through direct and indirect observation. The authors claim that the empirical approach explores the "why", "whom", "how" and "when" of a research problem. Thus, the purpose of this empirical research was to obtain valid and reliable data on why, whom and how through direct observation and enquiry, in a manner that supports solving the research problem and simultaneously meeting the research objectives.

Research design is portrayed by Gerard (2013:6) as the overall plan for conducting the research. The author posits that a research design focuses on the final result and includes all the steps in the process to achieve that particular outcome. Therefore, the research design is understood to provide the researcher with a clear framework within which research is conducted. Gerard (2013:6),

emphasizes his belief that research design phase of a study is critical for the success of a study, therefore suitably appropriate research methods must be selected for the design that is used to ensure that the objectives, such as those set out in the first chapter of this study, are obtained. Bhattacharyya (2006:52), shares the same view as Gerard (2013:6) and adds his opinion that research methodology is influenced by the researcher's own perception and general approach when trying to solve a research problem.

Creswell (2014:5), identified three research general approaches, namely the first being a qualitative research approach, the second approach being a quantitative research approach and the third approach being a mixed methods approach. Cresswell (2014:5) explains the qualitative research approach entails the analysis of textual, audio or pictorial data instead of numerical data. This type of research is contextual and case specific.

With reference to the second approach, Kumar (2014:8) and Mackey and Gass (2015:1), argue that the quantitative research is based on the measurement of quantity or "amount". Quantitative research is therefore applicable to phenomena that can be expressed in terms of numerical quantity. Quantitative research is described as generalisable and transferable.

Clarification on the third approach discussed by Creswell (2014:5), as mixed methods is a kind of research where the researcher combines qualitative and quantitative data in a single research study. The author claims that this form of enquiry provides a more complete understanding of a research problem than either approach alone.

A qualitative research approach was adopted by this study since this study is deemed to be principally empirical in nature. It is believed that information rich textual data empirically obtained in interviews serves both as evidence corroborating the problem statement and as useful information to address the research questions. The research problem stated that the absence of certain elements in an operational risk management framework has an adverse effect on quality management systems in selected service organisations in the Western Cape, while the primary research question included enquiries about the most influential factors pertaining to risk management that have an adverse effect on the quality management systems. In consideration of

the specific problem mentioned above, the advice of Creswell (2014:5) directed the selection of a qualitative approach as he advanced that researchers capture conversations, experiences, perspectives and participants' voices in qualitative research which makes this type of research rich with holistic understandings on the basis of contextual and detailed data.

The specific intention of this qualitative study is fivefold. First, research sought to empirically understand what the primary differences risk management systems in service organisation in the Western Cape are. Thereafter, empirically assess the primary areas of the quality management systems that are adversely affected by poor risk management. Third, determine what the consequences of inadequate risk management system are, with particular focus on the quality management system. Fourth, determine what the reasons for inadequate risk management are and finally, empirically investigate how excellence in risk management in a quality management system can be achieved. All these evaluations were conducted by means of observation, induction and evaluation.

This study is deemed to be unique since the examination of literature indicates that an empirical undertaking to determine the association between risk management and quality management in service organisations and also to determine whether or not there is a need for the development of a risk management framework has never been previously undertaken in the Western Cape.

4.1.2   Research Process

A process based on a proposal of Baggs and Clubine (1996: 29), which can be seen in Figure 7 describes the research process that is followed by this study, in an eight step model.
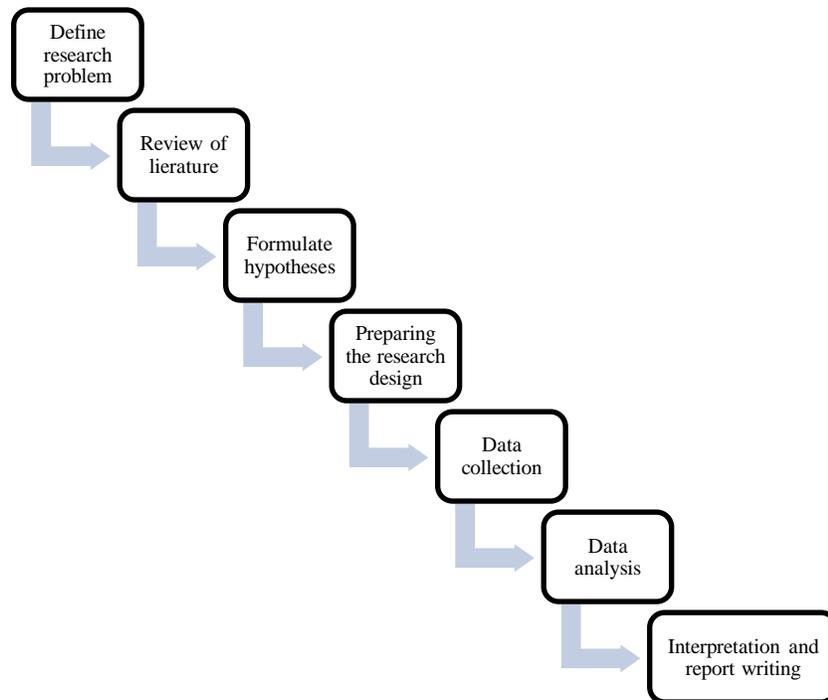
Figure 7: Reseach process (**Source:** Baggs & Clubine, 1996: 29)

4.2   DATA COLLECTION DESIGN AND METHODOLOGY

Lapan, Quartaroli and Riemer (2012:8), assert that rigorous data collection is a crucial component in the production of useful findings from data analysis. Youngberg (1998:53) and OECD (2015:186) caution that before data is collected it is important to consider how it will be analysed, reported and used. These authors explain that data collection methods should be selected with consideration of the validity and appropriateness of data sources. Furthermore, pilot testing is recommended before implementation to test the feasibility of the research design and increase the reliability and validity of research findings (Lapan, Quartaroli and Riemer 2012:8; Youngberg 1998:53 & OECD, 2015:186). Thus, this study included a pilot study prior to the main study. The participants in the pilot study were not the same as in the main study. The pilot study consisted of three service organisations.

According to Biehl (2016:213), a unit of measure is also called International system of units and is used as a standard for measurement of the same kind of quantity. The unit of measure for this study is service organisations from which qualitative data in the form of interviews was collected.

Moreover, data collection during this study is regarded as cross-sectional. A cross-sectional study is one which *"collects data about various variables of the sample at one point of time in order to uncover relationships existing among those variables"* (Kumar 2014:10, Mackey & Gass, 2015:2). Since data collection and analysis only took place once during the month of October 2016 in three service organisations in the Western Cape this study is therefore regarded as a cross-sectional study.

4.2.1 Sampling Technique

Target population is the total group of individuals from which the sample might be drawn (Daniel 2011:10). Daniel (2011:9), expresses an opinion that the description of the target population should specify the nature of the elements, sampling units containing the elements to be selected, geographic location of the elements and the time period under consideration. The population for this study comprised all service organisations in the Western Cape. The pilot study participants were not the same as the main study participants.

Daniel (2011:1) defines a sample as any group of people willing to take part in an investigation. This author adds that sampling is a process of selecting suitable participants from a population for a study. According to Joint Commission Resources (2008:35) and Vallabhaneni (2015:490), sampling is a basic statistical process that involves drawing a limited number of measurements from a larger source (population) and then analysing those measurements to estimate characteristics of the entire population. These authors state that sampling a subset of an entire population helps one predict the results for that population while saving money and resources. Although sampling can be cost-effective and save time, a researcher must use a statistically valid methodology to ensure the credibility of the data results (Joint Commission Resources, 2008:35; Vallabhaneni 2015:490). Three service organisations in the Western Cape were selected to be the sample.

Aligned with the views of Vallabhaneni (2015:490) and Daniel (2011:93), purposive sampling was used for this research study. They assert purposive sampling is used when a researcher wants to access a very particular subset of people. Daniel (2011:93) adds that this means that when taking a sample, people who do not fit a particular profile are rejected. Purposive sample starts with the purpose in mind. The participants in this research study were purposefully selected by virtue of their level of expertise in Risk Management and Quality Management. Since the Department of Water and Sanitation, City of Cape Town and Power Group in the Western Cape were identified through literature review as organisations that vigorously apply risk management during quality management, these organisations were selected.

4.2.2 Interviews

Friesen (2010:36), asserts interviews are an excellent learning tool whereby data collection through conversation is facilitated, with one person acting as an interviewer and the other as an interviewee. Furthermore, interviewers are able to clarify questions to the interviewees who appear to not understand certain questions. Another advantage of the interview format is that it allows the researcher to read and interpret the nonverbal communication of interviewees, enabling the interviewer to attempt to make sense of responses to questions interviewees struggle with or pause for a long time before answering (Friesen 2010:36).

This author lists the following types of interviews, namely:
- ➢ Structured,
- ➢ Unstructured and,
- ➢ Semi-structured.

In structured interviews the interviewer simply asks the written questions and records the reply. The purpose of this is to ensure all interviewees receive the same questions in the exact same order (Friesen 2010:36). In contrast with this, according to Huss (2009:28), unstructured interviews are better at gathering more in-depth information since this type of interview allows the interviewer to go back to interviewee on any response and ask as many additional questions as the interviewer sees as appropriate. However, the interviewer won't ask exactly the same question every time a

different participant is interviewed, so it could be said that this method is less reliable. Huss (2009:29) and Friesen (2010:36), explain the format of semi-structured interviews consists of a set of predetermined questions that the interviewer follows, however this format is flexible in that the interviewer is permitted to ask further questions and clarify matters.

A semi-structured interview was considered best for this study because this research study is an enquiry that combined a predetermined set of open questions but also allowed the interviewer to explore particular responses further (Friesen 2010:36). The data collection instrument of this study, namely semi-structured interview questions were prepared ahead of time because the study required specific information on a set of themes. Therefore the researcher prepared questions ahead of time that would provide data on those themes. This set, consisting of six themes which are discussed in greater detail in chapter five, emerged as relevant to this study from a study of literature.

4.3   DATA ANALYSIS

The process of data analysis begins when the researcher categorises and organises data, searching for patterns, trends and critical themes in the data (Flick, 2015:147). Data analysis in this study took place through the process known as 'coding'. The coding process entails the identification of preliminary conceptual categories (referred to as codes) from the evaluation of research data (Flick, 2015:147). A code in qualitative inquiry is most often a word or a short phrase that symbolically assigns a summative, salient and essence-capturing attribute for a portion of language-based data. The form of coding which this study employed was thematic analysis, since after the process of coding, the codes were then grouped into themes. An in-depth discussion of these themes is presented in the next chapter.

It is accepted that qualitative data can consist of interview transcripts, participant observation field notes, journals, documents, open-ended survey responses, drawings, artefacts, photographs, video, internet sites, e-mail correspondence, academic and fictional literature (Saldana, 2015:16), however this study only used interview transcripts as data.

The researcher made use of qualitative research software called Atlas TI. After data collection and transcription all interview transcripts were evaluated in the Atlas TI software programme. During the analysis of the transcripts (data) all the information in the data that was regarded as important for this study was marked by first identifying the relevant theme, naming the code and then sorting them into different code families. The code families were the variables in this study, namely risk management and quality management systems. This form of coding, namely thematic analysis in Atlas TI adds value to the research process as it generates a final report that is logical, non-repetitive and concise.

4.4   DATA VALIDITY AND RELIABILITY

Jupp and Sapsford (2006:86) and Vallabhaneni (2015:197), refer to validity as the extent to which observations accurately record the behaviour in which the researcher is interested in. They claim a pilot study, a thorough literature review, peer review or statistical validation are some of the methods that can assure validity. In this research, the researcher made use of the pilot study to ensure that this work was valid. The pilot study was conducted on six employees and managers of the three service organisations in the Western Cape. The pilot study participants were not the same as the main study participants. A pilot study is a research study conducted before the main study (Jupp & Sapsford 2006:85). The researcher conducted a pilot study during the months of June and July 2016. Following the completion of the pilot study both the process that was followed and the results of the pilot were examined to determine if the research design was suitable to meet objectives of this study. The results of the pilot study proved that the research design was suitable to meet the objectives of this study.

Jupp and Sapsford (2006:86), states that reliability refers to the consistency of observations, usually whether two (or more) observers or the same observer come to the same conclusion on separate occasions while studying the behaviour that comes away with the same data. These authors claim that observational methods have the advantage of evaluating the participant's involvement and engagement during the interview process. The researcher as the participant observer carried out observational methods of data collection by observing how the participants were engaging during interview processes. The researcher explored how participants answered

the questions and what they did when they did not understand the question. The disadvantage of this method is that participants may change their behaviour when they know that they are being observed (Walton, 2010:213). However, it was noted that the participants felt at ease with the researcher. This method proved to be a method of ensuring data integrity in this research study. Joint Commission Resources (2008:35) and Vallabaneni (2015:197) assert that data integrity ensures that no critical data are missing and that the data abstracted are reliable and valid. Thus, the researcher conducted this research in a manner that would allow the conclusions drawn from research to be considered valid.

4.5   ETHICAL CONSIDERATIONS

Oliver (2010:9) asserts ethics is concerned with moral perception of what is regarded as what is 'good' and what is 'bad' for individuals and society. This author advises that it is important to observe ethical considerations from early stages of a research project. All researchers, regardless of research designs, methods, sampling and techniques are subject to ethical considerations (Oliver, 2010:9).

The following ethical considerations were adhered to in this research study, namely:

- ➢ A detailed application was submitted to the Research Ethics Committee of the Cape Peninsula University of Technology for approval to conduct the research,
- ➢ Consent, permission and approval for the research in selected service organisations in the Western Cape were granted,
- ➢ Informed consent was obtained from the participants,
- ➢ Participants were not subjected to any risk of unusual stress or embarrassment,
- ➢ The researcher ensured that participants remained anonymous,
- ➢ The research was conducted in accordance with the ethical requirements to report the findings in an honest manner.

4.6   CONCLUSION

This chapter presented the research plan and methodology that focused at resolving the research objectives of this study. An empirical qualitative research approach was identified as the research method to meet the requirements of the research. The identification of a suitable research method led the researcher to follow step by step procedures for sampling and the collection of research data.

Data collection design and methods developed for this research study outlined important aspects such as the unit of measure and sampling techniques providing a structure for the analysis of data and interpretation in the next chapter. Validity and reliability of data as well as ethical considerations were identified as critical components of good research.

The next chapter will then extrapolate on the manner in which the data was analysed and findings obtained from research data are presented.

CHAPTER 5: DATA ANALYSIS

The previous chapter discussed the research methodology, presenting the methodological approach, data collection design, data analysis, data validity and reliability and ethical considerations. This chapter covers the presentation of the results of the data analysis.

5.1   THE RESEARCHER'S APPROACH TO DATA ANALYSIS

"The three P's – Person, Processes and Presentation are key issues in data analysis". (Grbich, 2012: 1). These three elements are important to any undertaking of qualitative data analysis.

Grbich (2012:3), asserts that the researcher collects data from the real world, from situations and people involved in what the research problem is. Then the researcher performs the process, which is the second concept Grbich (2012:3) refers to. This process involves the transcription and analysis of the data. Transcription entails capturing the dialogue or narrative from the devices on which it was recorded into a document format so there is a clear researcher-defined column of notes. Preliminary data analysis followed the transcription stage. The third concept that this author refers to is when the findings are displayed and theoretical interpretation of the analysed data is presented for the reader to assess. The researcher followed these processes in this research study.

5.2   THE NATURE OF PARTICIPANTS

All of the participants interviewed in this study were experts in Risk Management and Quality Management based on their experience and their work involved an aspect of risk management and quality management. The participants resonated with the need for a risk management framework in service organisations in the Western Cape and provided rich insight into the matters that are associated with risk and quality management. Nine people who are involved in risk management and quality management in their organisations were interviewed. All participants were based in the Western Cape. The participant complement consisted of three executive employees who manage risk and quality in large service organisations and six members who serve as operational

employees in these large service organisations. All of the participants were deeply involved in risk and quality management and held very strong views on the topic.

5.3   DATA ANALYSIS

There were six major themes that emerged from literature in chapter three that was reviewed, namely:

Risk Evaluation.

During the risk evaluation process it is believed that the identification of gaps in the risk management system will lead to an improved programme for the organisation's framework for managing risk (Covello, Menkes and Mumpower 2012:360).

Integration.

The findings of research conducted by Kemp, Schotter and Witzel (2012:118), found that upon evaluating the degree of risk management that is integrated into quality management the primary areas of the quality management system that are negatively affected by poor risk management are identified.

Perception.

According to National Safety Council (2014: **Online**), the determination of executive employee and operational employee perception on risk management within the quality management demonstrates that the perception can be measured.

Risk Factors.

The consequence of inadequate quality management system are identified when identifying the factors affecting the risk management system.   Identification of risk factors leads to the development of a plan for changes to improve services on a continuous basis (McLinden. *et.al.* 2010:101).

Constraints.

During the assessment and measurement of risk exposures referred to in the previous step, constraints are identified. These constraints are regarded as barriers in the way of meeting objectives (McLinden. *et.al.* 2010:12).

> **Other Factors.**
>
> New types of risks are encountered on a daily bases, therefore other factors that influence risk management within quality management are identified during the risk evaluation process leading to an integrated framework for a holistic approach for managing risk (Young 2014:25).

5.3.1 Evaluation of current risk management system within quality management

Theme 1:   Risk Evaluation

Literature reviewed in chapter three on risk evaluation revealed that the functions performed by the role which managers play in service organisations ensure success. For this reason, it is very important to involve management in all stages of risk evaluation (Covello, Menkes and Mumpower 2012:360). These authors advocate a systematic way to determine the effectiveness of an organisation's current approach to risk management. This approach considers the objectives of the organisation as well as how these objectives are expressed and communicated throughout the organisation.

A finding during data analysis in this study was that the importance of risk evaluation at all levels in the organisation is one that emerged readily during the majority of the interviews with the participants. The participants were very passionate about this subject and were very zealous to dwell on the subject as they felt that it is a very important issue in any service organisation. One important issue that emerged surrounding risk evaluation was plan, do, check and act.

Some participants agreed that service organisations need to plan, do, check and then act in order to ensure success in their service organisations, which is consistent with the views of Covello, Menkes and Mumpower (2012:360) on a systematic approach. These participants said:

> *"The plan, do, check and act, is still the main ideology of the quality management system". PARTICIPANT A*
>
> *"You still need to plan, do, act and check if something is wrong". PARTICIPANT I*

Another participant expressed their view that the whole idea was to evaluate risk management within quality management at all levels. The participant said:

"The whole idea now is to assess risk at all levels in the organisation". PARTICIPANT G

These participants believed that risk management and quality management should be integrated to ensure success in service organisations. They highlighted that the changes between the ISO 9001:2008 and ISO 9001:2015 specifically with regards to risk management were significant. When asked about their knowledge of the changes between the ISO 9001:2008 and ISO 9001:2015 specifically with regards to risk management, participants had this to say:

> *"When it comes to risk management in 9001:2008 it is implied but not defined meaning that what they have done, they have brought in and shortened it to basically ten questions and it also aligned ISO 9000 and 14000". PARTICIPANT H*

The same participant went on to add:

> *"They are all asking the same questions but in different subjects". PARTICIPANT H*

Participant E added that:

> *"They have aligned the three standards (ISO 9000, 14000 and 31000) much closer together so that they can talk to one another and the big element that must be addressed in all three of them is risk management". PARTICIPANT E*

Participant D was very passionate and knowledgeable about ISO 9001:2008 and ISO 9001:2015 and expressed their knowledge as follows:

> *"It is like corporate governance; I believe some elements were added. In terms of ISO 9001:2015 you have about ten elements that you look at now. Some were never there in the old one. Your support, operation and performance evaluation and improvement, those are the elements that are now in the new standard". PARTICIPANT D*

Corporate governance is a set of systems, processes and principles which is about promoting fairness, transparency and accountability (Monks and Minow 2011:429).

Participant G had the following to say:

> *"ISO 9001:2015 standards inform business to identify and address risks affecting their service compliance resulting in improved customer satisfaction. Besides identifying the risks, the new ISO standard addresses opportunities for improvement based on the risk analysis". PARTICIPANT G*

Participant C expressed their view as follows:

"My understanding is that it is about governance and the control environment for an example about providing leadership and measuring the whole organisation and the objectives of the organisation, to ensure that at the end of the day your expectations are met". PARTICIPANT C

The same participant went on to add:

"My understanding is that the intensive application of the ISO 9001:2015 is now on the technical side of the risk management". PARTICIPANT C

Participant F said:

"My knowledge is limited because I have not read the new standard but I have an idea that it is risk based. "When I attended an ISO 9001:2008 the person who took us through the course, said the changes are very few; there is not much of change". PARTICIPANT F

Participant B pointed out that the new ISO 9001 is ensuring that risk is part of the quality management process.

"ISO 9001 has always focused on mitigating and avoiding risk; the new ISO is ensuring that risk is part of the quality management process. It also focuses on preventing and correcting unwanted actions and outcomes but it has been limited to specific elements". PARTICIPANT B

It is clear from the above responses that the participants understand their high leadership roles with regards to quality management and risk management and that they are committed to risk evaluation for the purposes of improving their current system. These responses correlate with Covello, Menkes and Mumpower (2012:360)'s view that evaluation of current risk management leads to a clear-sighted programme improvement for the organisation's framework for managing risk.

5.3.2   The degree of risk management that is integrated into quality management system

Theme 2:   Integration

Literature reviewed in chapter three on this topic indicated that risk management is inseparable from quality management (McLinden*et.al.*2010:101). These authors emphasized their belief that risk management should not be regarded as something that is done in isolation from an organisation's management framework because it can affect the outcome of risk management.

Furthermore, the authors argue that when risk management is treated as a separate activity it can result in inadequacies in a risk management and affect the quality management negatively.

When asked about how risk management is integrated into their quality management system, the researcher observed the confidence with which the participants spoke about this issue. One important issue surrounding integration was aligning risk management to quality management in everything that is done.

One participant had the following to say regarding the integration of risk management into the quality management system:

> *"Risk management is integrated in everything we do". PARTICIPANT A*

Another participant spoke about how everything they do needs to be aligned and tied to risk management and quality management:

> *"We always have to check that everything we do ties risk management to quality management". PARTICIPANT F*

One participant pointed out that the new ISO 9001:2015 is ensuring that risk is part of the quality management process. One participant expressed their opinion that there should be integration between quality management and risk management but pointed out that unfortunately it is non-existent in their department with a perception that there is a gap that needs to be closed currently:

> *"Risk management is separated from quality management. It is as if it is a separate document from what we are doing on a day to day basis. Currently there is no integration in our department. There is a 2020 vision document being prepared, so I am hoping that by 2020 every person in the organisation will understand that risk management should not be separated from quality management". PARTICIPANT E*

The amount of risk management integrated into the quality management system was summarised and defined by the next responded who said:

> *"If I may define the difference between the two, a 'risk is what can stand between you and the achievement of your goal or your ultimate goal or all your objectives, now you are trying to identify what will hinder you or what may affect you in achieving your objective' and when you go to quality management you are talking about meeting and exceeding the*

needs of a customer. This definition on its own makes us as an organisation integrate risk management with quality management". PARTICIPANT D

Furthermore, the participant added that:

"If you are not managing risk well you are likely not going to meet the expectation of the customer. We ensure that risk management is integrated with quality management". PARTICIPANT D

The same participant went on to add:

"In that approach, if you are now talking about your ISO 9001, we are dealing with the engagement of the customer, the stakeholder engagement intensively. The aspect is to identify whether you will meet the needs of the customer or of the client. So the relationship between the two is if you are not managing well the one, then the other one is going to be affected. That is why, we talk about integrated quality management system, meaning from the onset, while you are managing risk, and on the other hand you are enhancing the quality of the output. PARTICIPANT D

The same participant concluded and said:

"In overall, whether consciously or unconsciously there is an integration of risk management and quality management system". PARTICIPANT D

The participants were asked to indicate how much risk management was integrated into their quality management system. Almost all participants indicated that risk management is integrated in everything they do. However, one participant indicated that risk management was separated from quality management in their department. This participant highlighted that there was a perception that there was room for improvement.

From the above discussion it is clear that some of the participants understand that risk management should not be regarded as something that is done in isolation from an organisation's management framework. These findings correspond with the view of McLinden *et. al.* (2010:101) that when risk management is regarded as something that is done in isolation from an organisation's management framework, it has a potential of affecting the outcome of risk management, resulting in inadequacies in a risk management adversely affecting quality management.

5.3.3 Executive employee and operational employee perception on risk management within the quality management system in selected service organisations

Theme 3: Perception

According to literature reviewed in chapter three a perception exists that risk management is inherent in the daily tasks of a successful quality management (National Safety Council (2014: **Online**). Another perception advanced by this author is that risk management in the field of quality must be documented and implemented in an integrated way in all operations, processes and existing activities. This author concludes that the perception of executive employees and operational employees on risk management within quality management is that risk management must be part of the organisation's strategy in quality management. Lack of consultation, lack of communication, lack of performance management were some of the important issues surrounding perception.

One participant summed it all up as follows:

> *"The only aspect now that is killing is maximum consultation, now if you don't consult so well then you are not going to understand exactly what the needs of the customer or your clients are". PARTICIPANT D*

From this it is understood that this participant recommends that there be increased consultation with customers or clients. Participant D is of the view that when consultation is minimal there is a risk that the needs of the customer of client will not be met.

Participant D added:

> *"If you don't consult so well, then you are likely to produce something that is below what is expected by your customers". PARTICIPANT D*

Additionally the same participant had this to say:

> *"The issue of communication is very important as well as the engagement and the evaluation". PARTICIPANT D*

Another said:

"In our approach, we talk of performance management, measure yourself so that you don't at the end identify you have irreparable damages, only then you identify that you have a problem". PARTICIPANT H

Participant C agreed with Participant H's opinion and highlighted the importance of risk in an organisation and the importance of the design stage. He said:

"Risk is important and it starts at the design stage because whoever designs or manufactures a product should actually provide those kinds of steps, they should provide the kind of information that stipulates what risks are within. The design stage needs to provide all the information needed with regards to the risk and the quality thereof". PARTICIPANT C

Participant D linked the lack of integration of risk management and quality management to lack of ownership.

"Quality management is about the organisation, all the things that are there within the organisation, what it is that needs to be done and how it needs to be done". PARTICIPANT D

One participant had the following to say regarding managing risk:

"We are never going to be perfect. Risk management is an ongoing focus area but risk management in my organisation is (because of the nature of our business) moving all the time. Things don't stay the same that means that one has to assess risk on many levels and it is a focus area of ours and we do get it wrong but we have a post-mortem process where we look at it and ask ourselves, what did we see in the beginning? Were those views right? Were those views wrong? Upon finding answers, the information is taken back to the procurement department to make sure that they are aware of the mistakes or any views that they took". PARTICIPANT A

Participant A agreed with Participant I and said:

"If something goes wrong it can have implications, risk implications. The quality of your work is how accurate it is and it ties in with managing risk".   PARTICIPANT I

Participant G expressed his views relative to executive employee and operational employee perception on risk management:

> *"You need to consider risks and opportunities as elements of the core planning processes and leaders within the business must go beyond just supporting risk-based approaches and become strong advocates of the practice".*

The same participant added:

> *"Risks and opportunities must become the core of serving the business or organisation's customer base, including not only maintaining quality, but to improve customer perceptions as well".*

Another pointed out that there are different perceptions.

> *"From management's side, you have got all the policies that guide you on how to do things but the interpretation thereof escalating down might be different because some employees when you tell them they cannot do a certain thing they find it as gate keeping. There are different perceptions. From management's point of view, we fully understand where this attitude comes from and now the level of understanding of each employee in terms of their levels is not seeing it from the point of view of a manager. Employees don't really realise that there needs to be some systems in place by government to make sure that monies are spent wisely and efficiently. So from the employees point of view whatever risks management plans are put in place or your mitigation plans they might not receive them well, most of the time they don't receive them well. And in terms of operations, employees understand their content of work but in terms of understanding broadly why they are doing what they are doing a certain way, they don't really understand". PARTICIPANT F*

In assessing the perception on risk management within the quality management system in the selected service organisations, it was found that the majority of the participant's understanding of perception in a service organisation was that the establishment of executive employees and operational employee's perception on risk was of utmost importance if an organisation wanted to evaluate the current risk management system of an organisation. These findings corresponds with

Young (2014:42)'s view that such perceptions steer decisions about the acceptability or risks and have a core influence on behaviours before, during and after disaster.

5.3.4   Factors that affect the risk management system

Theme 4: Risk Factors

Literature reviewed on factors that affect risk management in chapter three indicated that a major factor which can result in inadequacies in risk management affecting the quality management negatively is treating risk as something that is done in isolation in an organisation (McLinden *et. al.* 2010:101). These authors stated that when the risk factor is identified, then evaluating those inadequacies easily leads to the development of a plan for changes to improve services continuously ensuring customer satisfaction. Leaders not setting good example, cash flow, and mismatch of skills were all important issues surrounding factors that affect the risk management system.

One participant had this to say regarding the factors that affect risk management resulting in adequacies:

> *"Lead by example and walk the talk, from the shop floor to the top floor". PARTICIPANT G*

From this it is understood that it is very crucial for leaders to set a good example and ensure that they themselves do what they tell their employees to do. When top management is not leading by example it can affect the risk management adversely.

In support of participant G, participant A explained what they do in their organisation:

> *"Managing risk, there are twenty high level risks that we are managing well, things like cash flow, certain clients that we work with, limits of the authority is one of the issues, it has to be looked at because as the business gets bigger we spend more money, so the risks are increasing at all times so at a high level, company level, there is a good risk focus". PARTICIPANT A*

Another participant confidently declared that the identification of their risks is perfect but mismatch of skills is one of the factors that affect the risk management system.

"Firstly, we know what risks we have, the identification of risks is perfect. That in itself we do thoroughly. And then in terms of policies in place; to mitigate those risks that might be involved we do it hundred percent but in many cases there is mismatch of skills within the whole water sector or government". PARTICIPANT F

The same participant further stated that:

"There is a whole lot of mismatched skills and you find that it results in people doing things in an incorrect way. There's skills gap. There is a capacity issue in terms of our support structures and our supply chain. There are a whole lot of gaps in terms of adequate skills, adequate in terms of knowledge and adequacy in terms of numbers. We do not have enough people". PARTICIPANT F

Another said:

"Risk within quality – it is very intertwined because the identification or classification thereof will be how best you would implement or make that material or item work once you know what the risk factors are. Your planning of activity would be of great importance of how your products conform to the standards or the product is nonconforming to the standards so once you know what the risk factors are you'll be able to identify with the quality thereof, you'll be able to understand the quality and how the quality thereof works". PARTICIPANT C

One participant had this to say about the factors that affect the risk management resulting in inadequacies:

"Even the identification of risks we are not doing well because it is hard for the employees in the organisation to understand risks and challenges. The first thing is to identify. We cannot even separate risk from the challenge". PARTICIPANT E

Following the participants listing of the risk factors, the participants were asked to indicate areas in which they think they are doing well in terms of risk management in their quality management system in order to deal with the risk factors. They listed various areas which will now be discussed.

"There is a lot of things that can go wrong, meaning if it starts incorrectly with the filing system, there can be implications and can affect a few things so planning and organising needs to be in place to make sure that the flow is right from the other person to the next person". PARTICIPANT B

One participant summarised the situation as follows:

"If one has to marry the two, we have already developed a culture of integrating a risk management in all our business, meaning at least every functional unit is now able to identify its own risks. By doing so, if you are minimising or mitigating the risk, surely you are improving quality on the other hand because what is produced at the end will be what was expected in a given financial year, if that is the case, one can be able to communicate in advance to say managing that particular project is beyond one's control. So communication should be the integral part of it. If managing a risk of not achieving what you aspire to achieve rather communicate". PARTICIPANT D

The same participant said that they think the following can be done in order to more effectively deal with factors that affect the risk management system that result in inadequacies:

"But what I think we can do better is right from the beginning, marry the two which is a plan and a risk, the two must run together. Marry a plan and a risk. By doing so, you also apply what is called monitoring and evaluation. Monitoring and evaluation also assists you to identify risks, the new risks. If you go to monitoring and evaluation you will be doing it in five phases, namely, conceptual, formative, summative, output and then impact evaluation. PARTICIPANT D

A participant pointed out that:

"When we are planning things on the job, we could do risk assessment. Once you've got the job and you've got the plans and the specifications as well as the construction material now you need to do a re-assessment because what you have done at the time of tender might not be relevant anymore. Some of it can be relevant but there might be new risks that are emerging. So once you start the plan, the PDCA cycle, I'm not saying that we are not doing it, I'm saying that there is room for improvement that the start of the job needs to improve. PARTICIPANT A

Participant A added that:

This is what is going to come with ISO 9001:2015, I am thinking of innovative ways of making sure that we are effective in terms of our risk assessment, you know further down into the business at all levels. When I say all levels, I am talking about operation levels, out in the field. Look at what can go wrong, what is the likelihood of it going wrong and how we are going to prevent it or how we are going to mitigate it at least, you might not prevent it but what are you going to do to make sure that the least amount of impacts is coming". PARTICIPANT A

Another participant said:

"Continuously communicate and have workshops to keep staff updated". PARTICIPANT G

Another participant pointed out that one can do better by being proactive in what they do. This participant further pointed out that one needs to do one bit more than what they are doing because it is all about acquiring knowledge and adding value in the organisation.

"I think better planning, communication and making sure that information or the work that you are doing is first time right. Time management is also critical so that you don't have to come back and spend another day where you could have done or focused on something else". PARTICIPANT I

On the topic of people's attitudes and control of the environment Participant E said:

"Once you change your attitude about something at least you can be able to know where you are going. And then the control environment should come from the top because I know from top management meetings when they have performance meetings, they should be risk based. If they don't achieve an objective, there are risk factors there but risk management is not a language that is even strong from top management hence I am saying the tone should come from the top". PARTICIPANT E

One participant summarised the things that can be done better in their organisation as follows:

"I think what can be done better is corrective measurements, reporting, monitoring and training". PARTICIPANT C

One particular participant was very concerned about budgeting allocation and expressed this as follows:

> *"Allocation of enough budget and skills attached to each risk identified would lead to proper mitigation of those risks". PARTICIPANT F*

Mismanagement of cash flow and a mismatch of skills are some of the factors that were highlighted by the participants. There were participants that mentioned lack of communication, lack of planning and employees in the organisation not understanding risks as some of the factors that affect risk management within their quality management resulting in constraints to risk management within the quality management system. Some of the responses correlate highly with McLinden *et. al.* (2010:101)'s statement that a significant component of any management framework is the planning process and that this is the ideal place for the formal and systematic management of risk within quality management to begin. Monitoring and evaluation together with risk assessment were mentioned as one of the control measures that could assist in dealing with these constraints.

5.3.5   Constraints to risk management within the quality management system

Theme 5: Constraints

According to the literature reviewed in chapter three, dealing with constraints can lead to a service or a product delivery on time, on budget and with the quality results that the customer expects (Kendrick 2015:25). Insufficient time, lack of communication, improper planning; inadequate skills and capacity, non-existent project management approach, non-existent consequence management, people and money were all important issues surrounding constraints.

One participant highlighted that planning was a major constraint due to the fact that in various cases timing was so limited:

> *"There is not enough time to spend on the planning process so the identification of various processes become irrelevant so you would forget about this, leave this out and eventually, you find that say for instance, you placed an order and it does not get communicated to the parties who are receiving the order, so this would be what it is that you need to look out for, that it fits on the left and not on the right when it comes". PARTICIPANT C*

Another participant pointed out that information and people can be major constraints to risk management:

"If a person doesn't do proper planning and the information comes through to us for instance for ordering big materials where incorrect orders can go through and obviously with that there's cost involved, money is involved". PARTICIPANT B

Participant A theorised that sometimes constraints to risk management are money and resources:

"One of the key things with any SHEQ system (safety, health, environment and quality) is when events are happening. When there are no events happening, when there are no bad stories, people start to ask why we even have this SHEQ. Not realising that because you have it, that is the reason why you don't have things going wrong. The minute things are going right, people start to say; can we not share the safety person or can we not share the quality person, so pressure starts to come when there are no bad stories. The people start to want to take these resources away". PARTICIPANT A

In assessing constraints to risk management within quality management participant F said:

"People, inadequate skills and capacity both in terms of knowledge and numbers are a constraint. You do find a lot of people doing a lot of things at once; they are expected to do a lot of things at once. And a person can only do so much". PARTICIPANT F

Participant D summarised his observation about the constraints that he has on risk management saying that there was never a project management approach.   He firmly believes that project management encompass risk management.

"You have risk management champions; employees don't know that to mitigate a risk you are entirely and solely responsible to mitigate that risk. As a manager, I can assist you to strategise and show you how to mitigate that risk but the only person that can mitigate that risk is the project manager but currently, especially on the administrative part of it, like I say it was traditionally not the field that was the project management approach, especially in government but now we are at a stage where employees need to know that they are entirely responsible to manage risk in their respective line functions. That is what needs to be improved". PARTICIPANT D

Another said this about constraints to risk management:

> *"It's even difficult to hold meetings. It is like employees don't even care to attend meetings, they just attend for the sake of it because they don't feel it is part of their responsibilities. And it is something that is lacking from their performance agreements. I feel risk management should form part of every employee's performance agreement. Employees are reluctant to comply because they know risk management does not form part of their agreements. It is adhoc tasks to them. Even though they know it is not really an adhoc function, because they should know that whatever they do they need to manage the risk".*
> *PARTICIPANT E*

Participant E went further to say:

> *"I feel that even job descriptions need to be risk based so that when an employee is assessed and their performance is not talking to the risks in the organisation, they get a zero for their performance and if they have underachieved they face the consequences. The other thing that is lacking and is a huge constraint is consequence management because employees know that whether they perform well or they don't nothing is going to happen to them". PARTICIPANT E*

Participant G added that:

> *"One of the constraints to risk management is the inability to get employees to live the system on a daily basis through change management". PARTICIPANT G*

From the above findings it can be concluded that all participants understand the constraints that exist in their organisations. These findings revealed a belief that project management encompass risk management and that the absence of a project management approach is one other factor that influence risk management within quality management. These findings corresponds with Kendrick (2015:25)'s claim that risk management and quality management can be applied successfully in a project to prevent failures.

5.3.6   Other factors that influence risk management within quality management

Theme 6: Other factors

Rocha-Lona, Garza-Reyes and Kumar (2013:128), believe that other factors such as empowering employees, improving processes, instituting a quality oriented culture and promoting teamwork ethics are very important factors that need to be understood and be in place in an organisation. Attitude of people, culture, financial risk, inadequate knowledge management, lack of ownership and external factors were important issues surrounding other factors that influence risk management within quality management.

> *"People, attitudes, culture and attitude of people are major factors that influence the risk management within the quality management system". PARTICIPANT A*

Participant A elaborated on that:

> *"At the planning stage, you have to spend a lot of time there, the more you plan, the most successful you are going to be, obviously the checking is important but your plan you have to think carefully about it". PARTICIPANT A*

Another participant added that information, either product information or knowledge are the other factors that influence the risk management in their quality management system.

> *"Knowledge of implementation, people don't communicate with one another with regards to how certain activities in the quality management system need to work or how certain risk management and quality management processes need to take place". PARTICIPANT H*

The same participant expressed their view that financial risk was another factor that influenced risk management within quality management:

> *"You get financial risk; I think our knowledge is limited when it comes to the various types of qualitative risk, the quality when it comes to administrative risk, there is a risk attached to that as well". PARTICIPANT H*

Participant G said:

> *"Risk must become a focal point in defining actions and also how to use risk to the organisation's advantage in terms of risk mitigation, risk-taking, sharing risk and include it into ongoing daily activities". PARTICIPANT G*

Another participant expressed their opinion that inadequate knowledge management is another factor that influences risk management:

"Knowledge management is one of the factors that influence risk management, you have got a lot of employees that are moving around and that knowledge is not captured. You have got employees redesigning the cycle. Knowledge is not stored, you have got employees leaving and you have got employees coming in and they start the cycle, which in itself is a risk for our organisation. We do not have a proper knowledge management system in place, even though we are trying now. Our department has just recently established the knowledge management unit at Head Office but it is moving very slowly. I think if everybody knew the organisation so well, I am talking about human resources, support units, knowing what the other is doing, I think we would be all kind of experts in what we do. People know what they are doing in their space but have no idea how it fits into the bigger picture". PARTICIPANT F

Participant F added that:

"The other risk that we have I think is old infrastructure and that whole inadequacy in planning back then where not all people were planned for to receive services now we are catching up. Now when we are catching up, the other systems that we have there in terms of your infrastructure are old and now your budgeting is working double. We are in a predicament where we don't know whether to revamp the whole system and at what cost or do you fix but while fixing at some stage you need to replace". PARTICIPANT F

One employee cited the other factors while demonstrating her passion for quality and risk management as follows:

"If risk management was in every employee's profile we would not be experiencing any problems. It should be everybody's responsibility because you would not have to remind a person to report. If I had the power to make changes in the department I would definitely influence everyone to think quality management and risk management. I would put it to the managers that if they are going to be reporting, they need to understand quality management. Even though there is no ownership, for our own development and knowledge we need to go this management route". PARTICIPANT I

In assessing other factors that influence the risk management within the quality management system one of the participants indicated that some of the risks are external:

"You are dealing with opportunities and threats. Some factors are very much more external because there are issues you don't necessary have control over. You aspire to manage or mitigate a particular risk with your quality management system and you are doing all what is in your power to mitigate that particular risk, however, you are

confronting what is beyond your control. Drought for an example, is an external factor that may constrain you in achieving what you aspire to achieve". PARTICIPANT D

Participant G agreed with participant D:

"Sometimes we cannot mitigate certain risks. For an example, you might go into an area with a lot of supply, and there might be risk at gunpoint or violence popping or have our equipment being burned, those are the risks we don't have control over. Operational risks as we know them within the business we can manage them. Internal environment is fine however external environment changes on a daily basis. Might be better or worse and that in itself is a risk". PARTICIPANT G

From the above discussion it is clear that all participants understand that culture, attitude of people and planning are major factors that affect the risk management within the quality management system. These findings corresponds with the statement by Rocha-Lona, Garza-Reyes and Kumar (2013:128), that improving processes, empowering employees, instituting a quality oriented culture and promoting teamwork ethics are very important factors that need to be in place in service organisations.

5.4   SUMMARY OF FINDINGS

In evaluating current risk management within quality management system of selected service organisations in the Western Cape the participants were asked firstly about their knowledge of the changes between the ISO 9001:2008 and ISO 9001:2015 specifically with regards to risk management. Secondly, the participants were asked about the degree of risk management that is integrated into their quality management system. The themes that were identified from the above participant's responses were risk evaluation and integration. The important finding surrounding the risk evaluation theme was plan, do, check and then act. With regards to the changes between the ISO 9001:2008 and ISO 9001:2015, the participants highlighted that the changes were notable. These participants firmly believed that in order to ensure success in service organisations risk management and quality management needed to be integrated.

To determine the executive employee and operational employee perception on risk management within the quality management system in selected service organisations the participants were asked what their perception was on risk management within their quality management. The theme that was identified from their responses was perception. There were different perceptions, however, participants were in agreement that lack of maximum consultation, lack of communication, and lack of performance management were some of the important issues that surrounded this theme.

During the establishment of the factors that affect the risk management system resulting in inadequacies, three themes were identified, namely: risk factors, constraints and other factors. Cash flow, mismatch of skills and leaders not setting a good example were all important issues surrounding risk factors that affect the risk management system. Insufficient time, lack of communication, improper planning; inadequate skills and capacity, non-existent project management approach, non-existent consequence management, people and money were all important issues surrounding constraints. Other factors that influence risk management within quality management included attitude of people, culture, financial risk, inadequate knowledge management, lack of ownership and external factors.

Two participants' best summed it up, agreeing and demonstrating that there is a need for a risk management framework for the improvement of services and closing gaps that are currently evident in risk management which affect the quality management negatively:

> *"The culture, especially on the administration in identifying that or knowing that I am entirely responsible to manage risk, is not yet there. We are not there yet. That is what needs to be improved upon; it constrains you in identifying and consolidating a risk register in a particular organisation". PARTICIPANT H*

> *"Currently there is no integration in our department. Risk management is separated with quality management. There should be an integration but unfortunately there is a gap currently". PARTICIPANT E*

5.5   CONCLUSION

The findings of data analysis above cover the key themes that developed from the literature reviewed in chapter three. All the participants were in agreement with the valuation that the lack of certain elements in the risk management framework had a negative impact on quality management resulting in inadequacies and that there is a need to explore the reasons for the less than desired progress. The views of the participants were different, however they agreed that there were gaps and that acknowledging room for improvement in the management of risk was essential. The findings correlate with Philpott and Gentz (2012:74) who recognised that effective management is best achieved through the development of a comprehensive framework for management of risk within an organisation.

The above reflects the view of Young (2014:25) who emphasise that an integrated framework for an overall approach to risk management which is part of a quality management system is required because new types of risks are encountered every day. The goal of the framework is to manage the risks. This is supported by McLinden *et. al.* (2010:101), who found that central element of any risk management framework should be clear statements of the organisation's objectives, together with an identification of risks to be managed.

The following and final chapter of the research study will present the risk management framework developed from this analysis.

CHAPTER 6: CONCLUSION

6.1   INTRODUCTION

The purpose of this research was to explore the most influential factors, pertaining to risk management, that have a negative effect on the quality management system in selected service organisations in the Western Cape with the objective of developing an improved plan for changes to current risk management system.   The research also aimed at evaluating current risk management within quality management system; determine the operational employee and executive employee perception on risk management and evaluating inadequacies in the risk management system in the selected service organisations in the Western Cape. This chapter presents a framework based on the research conducted on risk management and quality management in three service organisations in the Western Cape. The framework is based on the comprehensive literature review and the findings of data analysis conducted from interviews.

6.2   THE RESEARCH OUTLINE

The outline of the development of the research process is provided in relation to the overall research conducted and presented in earlier chapters which were:

➢ **Chapter 1:** This chapter outlined the research questions, background of the research environment, investigative questions, research objectives, research process, research design and methodology, data collection design, research assumptions and constraints.

➢ **Chapter 2:** This chapter provided a holistic overview of the research environment, including a thorough evaluation and understanding into the current quality management and risk management in the selected service organisations in the Western Cape. Furthermore, the chapter discussed and highlighted the need for the development of a risk management framework for the purposes of providing a tool that can be employed by service organisations in the Western Cape in order to make momentous quality improvements.

➢ **Chapter 3:** In this chapter, a holistic literature review in the areas pertaining to quality management, risk management and service organisations was conducted with the

understanding and knowledge to be able to build a suitable research design that will achieve the research objectives.

➢ **Chapter 4:** A detailed discussion of the research design and methodology used to conduct research was outlined in this chapter with an explanation of the procedures, participants, data collection tools and analysis methods.

➢ **Chapter 5:** This chapter covered the presentation of the results of the data analysis.

➢ **Chapter 6:** This chapter presented a framework that was based on the comprehensive literature review and findings of data analysis conducted from interviews.

6.3   SUMMARY OF THE OVERALL FINDINGS

The overall finding of this research is that there are gaps that need to be closed pertaining to quality and risk management. Based on the findings of data analysis it emerged that only top management are very knowledgeable about the changes between the ISO 9001:2008 and ISO 9001:2015 with regards to risk management. However, they were not comfortable and confident that they were where they needed to be in terms of being knowledgeable to the extent that they express themselves openly about the topic. Some felt that their knowledge was limited due to not being sent on an ISO 9001:2015 course to gain proper knowledge about quality and risk management. Some of the operational employees stated that even though they perform their duties according to the ISO standards, they were not aware that they are doing quality management. One of the executive employees mentioned that when they go on site to do an audit, they don't mention to the employees that they are doing a quality check but rather just visit employees to evaluate their performance because they feel that they do not want to overwhelm their operational employees and bore them with detailed standards telling them how to do their work. This finding is supported by the literature reviewed in chapter 3.

Additionally, because risk management is an ongoing focus area in the sense that current situations pertaining to quality management is not constant, risk increases at all times and this research revealed that there will always be room for improvement and gaps to be closed.

Another finding from literature reviewed is that communication, engagement and evaluation are very important, especially for the purposes of avoiding irreparable damages and failure to deliver

products or services timeously and with the expectation of the customer. Communication should form a fundamental part of executive employee and operational employee relationship. This is not the case in service organisations based on the results of the data gathered. The gap in terms of knowledge and understanding of processes in relation to quality and risk management between executive employee and operational employee is evidenced by the results of the data gathered in light of clause 5.2 of ISO 31000:2009 standard which stipulates that external and internal communication and consultation that is straightforward should be in place in order to ensure that operational employees and executive employees responsible for implementing the risk management process understand the basis on which decisions are made as well as the explanations of particular actions that are required.

The results of data analysis and literature conducted revealed that executive employees in all three service organisations have sound knowledge and skills in quality and risk management. This was further supported by their understanding and application of new developments like ISO 9001:2015. In these service organisations however, junior employees and operational employees displayed limited knowledge of quality and risk management although some of them have skills in implementing the systems that are used to manage quality in their respective areas. Their inability to link the two subjects implied lack of academic background, training and development in the fields.

In addition, the data analysis and literature reviewed demonstrated that in some of the organisations the lack of an integrated quality management with risk management has an adverse consequence that result in inadequacies. Furthermore, data analysis and literature reviewed revealed that a skills gap exists. This particular finding is supported by a participant who identified that there are a lot of gaps in terms of adequate skills in relation to knowledge.

The identification of risks that is not done well is highlighted as another finding in this research. The results of the data analysis also revealed that there are various constraints to risk management, namely:

> Limited planning,
> Information,
> People,

- ➢ Money,
- ➢ Resources,
- ➢ Inadequate skills and capacity,
- ➢ Knowledge management,
- ➢ People's attitudes, and
- ➢ Old infrastructure.

6.4   RESEARCH QUESTION

Research question is indicated as follows:

What are the most influential factors, pertaining to risk management, that have an adverse effect on the quality management system in selected service organisations in the Western Cape?

Based on the conclusions obtained from the key research findings of the research conducted it was found that the absence of certain elements in an operational risk management framework has an adverse effect on quality management system in selected service organisations in the Western Cape.

6.5   RECOMMENDATIONS

The following recommendations are made as a result of the research conducted according to the investigative questions:

6.5.1   Investigative question 1

What are the primary differences seen in risk management systems of selected service organisations in the Western Cape?

- ➢ People,
- ➢ Skills,

> ➢ Experience and,
>
> ➢ Competence.

6.5.2 Investigative question 2

What are the primary areas of the quality management system that are adversely affected by poor risk management?

> ➢ Executive employees,
>
> ➢ Operational employees and,
>
> ➢ Risk owners.

6.5.3 Investigative question 3

What is the result of inadequate risk management system that impacts on the quality management system?

> ➢ Documentation of all processes and procedures will not be in place.
>
> ➢ Appropriate resources for knowledge management systems and information will not be allocated.
>
> ➢ Organisations will miss the opportunity to afford all people at all levels opportunities to training programmes.
>
> ➢ Relevant information will not be communicated appropriately and will not be available at appropriate levels and times.

6.5.4 Investigative question 4

What are the reasons for inadequate risk management system in the selected service organisations in the Western Cape?

> ➢ Non commitment by management to communicate the benefits of risk management to all stakeholders.
>
> ➢ Lack of integration of risk management into all of the organisation's processes in a way that all people at all levels can identify and understand its relevance, effectiveness and efficiency.

6.5.5 Investigative question 5

How can excellence in risk management in a quality management system be achieved?

➢ Framework for managing risk must be developed to improve services ensuring that decision making, including the development and setting of objectives is aligned with the outcomes of risk management processes.

➢ The risk management framework must be monitored and reviewed to ensure that it is effective.

➢ The risk management framework must be improved continually in order to improve the risk management of the organisation and its risk management culture.

6.6   RISK MANAGEMENT FRAMEWORK

Risk management framework for service organisations in the Western Cape
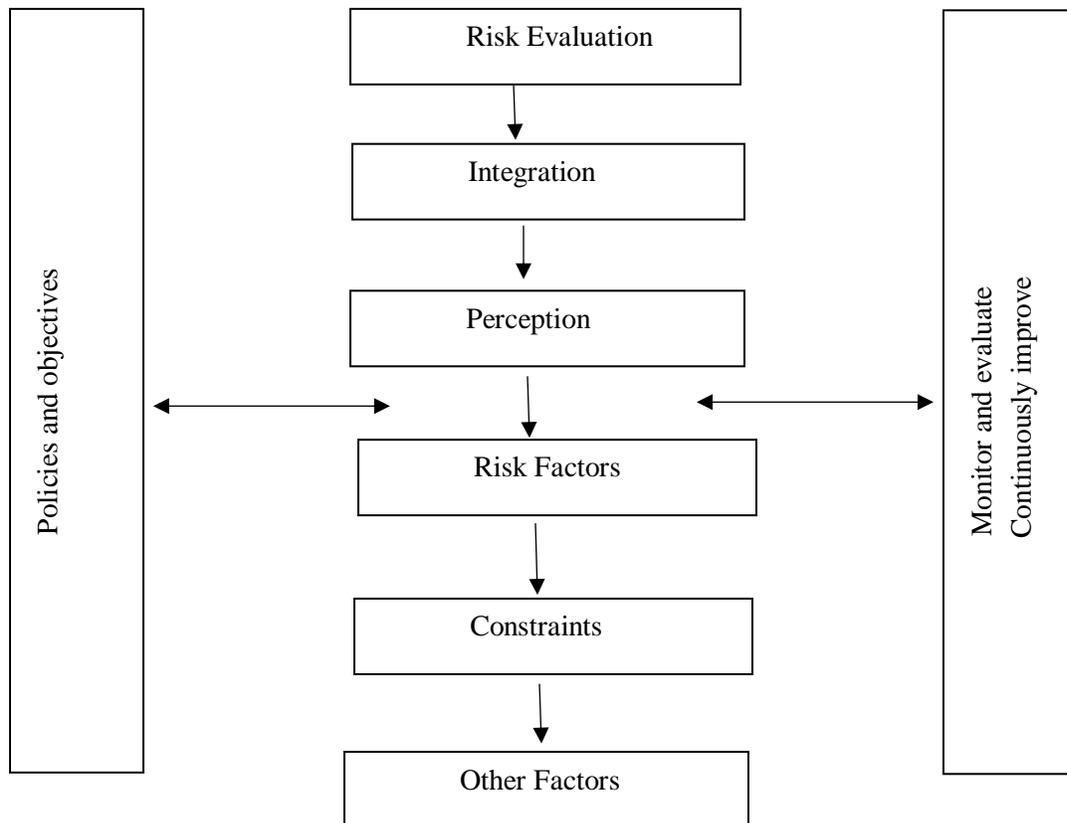
The organisation's objectives were the most important factors of the design of the above risk management framework. This statement corresponds with McLinden *et. al.* (2010:101)'s finding that central element of any risk management framework should be clear statements of the organisation's objectives, together with an identification of risks to be managed. Furthermore, the design of this framework was based on the themes that emerged from the interviews that were conducted. The themes were carefully considered because they are believed to be very important as they can affect the ongoing implementation of the framework.

The implementation process of the framework has to be documented. This claim reflects the view of McLinden *et. al.* (2010:101) who highlights that a major aspect of any risk management framework is the need to document the process.

Customers and represantatives of senior management are expected to be involved in all stages of the process and engage for evaluation purposes because the success of the risk management framework is dependant on their involvement. This view is supported by Kemp, Schotter and Witzel (2012:118), who expressed their belief that success depends on the involvement of customers and the engagement to evaluate the existing approach in order to plan how, where and when enhancements will be made.

The objectives of this research were to firstly, evaluate the current risk management practices. Secondly, to determine executive employee and operational employee perception on risk management within the quality management. Thirdly, to identify factors affecting current system resulting in inadequacies. Fourthly, to evaluate the inadequacies in the risk management system within the quality management system. Lastly, to develop an improved plan to direct the necessary changes to current risk management system.

The first objective was met by asking the participants about their knowledge of the changes between the ISO 9001:2008 and ISO 9001:2015. Also participants were asked how much risk management was integrated into the quality management system in their organisations. These two questions led to the evaluation of current risk practices within quality management system of selected service organisations in the Western Cape.

The second objective was met by asking the participants what their perception was of risk management within their quality management.

The third objective was met by establishing the factors that affect the risk management system resulting in adequacies. Participants were asked firstly, what it is that they are doing well in terms of risk management in their quality management. Secondly, they were asked what they thought could be done better in terms of risk management in their quality management. Thirdly, they were asked about the constraints that they had to risk management within their quality management. Fourthly, the participants were asked about other factors that influence the risk management in their quality management system.

Meeting these three objectives paved a way to meeting objectives four and five which were to evaluate the inadequacies in the risk management system in the selected service organisations in the Western Cape and developing an improved plan for changes to current risk management system respectively.

6.7   CONCLUSION

The purpose of service organisations is to provide services or products to their customers. The type of services and products that the service organisation must provide should be of high quality standard for the purposes of ensuring that the customers are satisfied at all levels. In order for the service organisation to deliver services or products of good quality, it is of utmost importance that they comply with the quality and risk management standards.

In this research study three organisations were selected within the Western Cape with a focus directed at their risk management system. These service organisations were selected on the basis of their reputation in the providence of services. The organisations are Power Group (Engineering and Construction), the Department of Water Affairs (DWA) and the City of Cape Town (CCT). The three organisations have a quality management system in place with a strong emphasis on risk management system with the intention to improve their services continuously ensuring customer satisfaction.

The services that the three selected service organisations provide to their customers include water, sanitation, electricity and roads and they provide services to their customers considering customer's expectations and perceptions.

The combination of literature and results of the research allowed the researcher to believe that there are three elements that cannot be separated if service organisations wanted to see changes or improvements in their quality and risk management system. The three elements are time, cost and quality. It is impossible to produce a very good quality product if risk is not managed accurately.

The researcher is of the opinion that if the three elements; time, cost and quality are not managed well; it will be impossible to deliver a product at a particular time with expected results.

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