

**UNIVERSITY OF KWAZULU-NATAL**

**The implementation of Total Quality Management: A case study of a construction  
company in Zimbabwe**

**By**

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## DECLARATION

I, Memory Nhemachena, declare that

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M. Nhemachena

Memory Nhemachena

Date: 7 July 2020

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## **DEDICATION**

This dissertation is dedicated to my late mum, my mentor Perpetua Nhemachena, for I continue to live by her countless great words and advice.

## ABSTRACT

In the construction industry and services, total quality management (TQM) is recognised as a productive management philosophy as it increases the quality and production of businesses. Research reveals ways in which TQM can be effectively implemented in the construction industry: aiding in reducing costs, increasing job satisfaction, and promoting healthier customer and supplier relations. This study sought to examine how TQM can be implemented in a construction firm in the most effective and competent ways. The main objective of this study is to evaluate how a selected construction organisation implements TQM using some of the fundamentals of TQM, namely, top management involvement, employee empowerment, organisational culture, communication, and technology, in a developing country such as Zimbabwe. Furthermore, the study investigates the challenges of implementing TQM initiatives and the strategies engaged in the organisations to overcome some of the challenges encountered. The study was guided by a constructivist research paradigm, employing a qualitative research approach. As the study sought to understand and explain how a selected company is implementing TQM in Zimbabwe, an explanatory case study approach was employed. The study used a census research approach. The target population was made up of all managers responsible for implementing TQM in the organisation. According to the company database provided by the Human Resources Manager (HRM), there were fifteen managers involved in the organisation. These managers occupied senior, middle and low-level management positions. The target population and the sample size were therefore, made up of the fifteen managers. However, only seven managers managed to contribute to the study, achieving a response percentage of 46.6%. Primary data was gathered using in-depth interviews. Data were analysed using NVivo software. The key findings of the study revealed that TQM implementation is affected by a lack of top management commitment to business operations. In addition, the hostile economic situation in the country is hindering TQM implementation as most companies are failing to upgrade to modern technology as well as train their employees on TQM activities. The conclusions drawn from this study are that TQM is essential to the construction industry. Therefore, top management should be actively involved for successful TQM implementation. For a successful implementation of TQM, managers should be accountable in terms of the procedures and financial resources. TQM can be improved by operational performance in the workplace. The complete potential of TQM is realised through the

training and education of everyone at all levels in order to create TQM awareness, interest, aspiration, and achievement.

**Keywords:** Total quality management, implementation, construction firm, TQM determinants

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## **GLOSSARY OF ACRONYMS**

BSAC	British South Africa Company
CAQDAS	Computer Assisted/aided Qualitative Data Analysis
CVF	Competing Value Frameworks
EDI	Electronic Data Interchange
FIDIC	International Federation of Consulting Engineers
GDP	Gross Domestic Product
HRM	Human Resource Management
IEEA	Indigenisation & Economic Empowerment Act
IT/IS	Information Systems / Information Technology
JIT	Just in Time
MDC	Movement for Democratic Change
MBNQA	Malcolm Baldrige National Quality Award
NVIVO	Qualitative Data Analysis (QDA) computer software package produced by QSR International
OC	Organisational Culture
QM/QMS	Quality Management / Quality Management Structure
QWL	Quality of Work Life
SADC	Southern African Development Community
TQM	Total Quality Management
UKZN	University of KwaZulu-Natal
VAT	Value Added Tax
USA	United States of America
ZACE	Zimbabwe Association of Consulting Engineers

# CHAPTER 1

## INTRODUCTION AND BACKGROUND OF THE STUDY

This chapter will be discussing the introduction and background of the study for the implementation of total quality management (TQM).

---

### 1.1 INTRODUCTION

Globally, the construction industry is a major contributor to the Gross Domestic Product (GDP) (Razak, Ibrahim, & Roy, 2010). The GDP contributes significantly to the economic growth of a country. During the period between 2010 and 2020, it was noted that the construction industry accounted for more than 11% of global GDP (Shahbazi, Akbarnezhad, Rey, Ahmadian & Loosemore, 2019). By 2020, the construction industry is expected to contribute approximately 13.2% towards the world's GDP (Shahbazi et al., 2019). The main objective of the construction industry is to deliver quality products and quality services. However, the industry faces extensive delays, excessive costs, and declining quality of workmanship. These delays are due to the lack of total quality management (TQM) implementation (Hashmi, 2007).

Businesses are constantly searching for ways to improve client gratification (Huang, 2015). Businesses use familiarisation and application of innovative organisational skills systems through TQM (Bon & Mustafa, 2013). The use of technological strategies has been adopted in most businesses, whether they are a service provider or in product development (Pogány, 2015). Nevertheless, this approach has negatively influenced the growth and development of management skills (Isaga, 2015). According to Pogany (2015), consideration is mainly given to better use of technical skills for internal and external achievement. This then has developed an attitude that creates difficulty in influencing and involving all individuals in the implementation process. Additionally, it limits the supplier or client's efforts towards achieving external objectives, such as customer satisfaction and loyalty (Dennis, King & Martenson, 2007).

Implementing TQM includes describing and organising numerous crucial fundamentals or elements (Fotopoulos Psomas, & Vouzas, 2010). The factors of TQM include both soft and hard

aspects (Fotopoulos & Psomas, 2009). However, previous research studies Cheah, Ooi, Teh, Chong, & Yong, (2009) state that the set of quality issues or fundamentals of TQM implementation mentioned in the available literature have not been explored in an organised empirical study. However, Aoun and Hasnan (2017) posit that a variety of identified quality factors are usually based on the employee's judgement and experiences within the organisation. However, a number variety of identified quality factors are based on researcher's judgment and experiences in working with different organisations are highlighted (Aoun, & Hasnan, 2017). Many of these studies were undertaken in developed countries with stable economies (Savolainen, 2000; Tena, Llusar & Puig 2001). The investigation and philosophy of TQM implementation are still at the early stages in developing countries (Nyakala, Munyai, Vermeulen & Pretorius, 2017). Currently, there is a shortage of experimental studies conducted on TQM in developing countries (Nyakala et al., 2017). Previous research studies (e.g. Chen & Chen, 2009; Haupt & Whiteman, 2004; Punnakitikashem, Laosirihongthong, Adebajo & McLean, 2010) have classified the levels of TQM that can be operated to implement TQM successfully. Historically, Zimbabwe was one of the greatest economies in Southern Africa because of its natural resources and highly skilled workforce (Barrios, Bertinelli & Strobl, 2010). Hence, the study explores the implementation of TQM in the construction industry in Zimbabwe.

## **1.2 BACKGROUND OF THE STUDY**

Globalisation of market economies has compelled companies to focus on supporting a maintainable competitive advantage of quality in terms of services as well as output (Kumar, Khurshid & Waddell, 2014). This can be only achieved in companies which participate in operations or produce products that effectively compete in the market (Hipsher, 2009). The nature of the present market is characterised by ever-hardening competition and ever-increasing potential consumers and demands. Therefore, a unique competitive strategy must be introduced by a company. According to Najdawi, Chung & Salaheldin, (2008), a competitive strategy must produce goods and services that continuously meet and surpass these demands, for future success. Total quality management (TQM) implementation is a unique strategy that is used to achieve continuous improvement (Kumar et al., 2014). Continuous improvement refers to the ways that organisations engage in improving customer satisfaction, increase employee contribution; strengthen supplier partnerships, and creation for conducive operating environment for continuous

quality development (Sadikoglu & Zehir, 2010). Managing the excellence of quality management (QM) in the construction industry differs when compared with the perspective of the industrial and facility trades (Willar, 2012). The author Rumane (2011) explains that QM in the construction industry includes not only the excellence of products and services but also the total management method, which differs depending on the needs of customers. Pamulu (2010) states that construction companies need to ensure that they are able to compete at a global level. However, the lack of competitiveness of national contractors when competing for agreements with external businesses, at worldwide levels, is most recognised (Willar 2012). The situation is compounded by inability of government officials in familiarising themselves with new management of external contractors. In addition, economic situations, expensive implementation costs, project delays, low levels of competence and output, and battles amongst complex parties results in the ineffectiveness of QM implementation (Larasati & Tsunemi, 2009). Therefore, the difficulties and limitations have affected a large number of Zimbabwean contractors. Furthermore, it has resulted in engineers being incapable of capitalising on the growth of QM implementation. This is due to unskilled employees failing to reach progressive phases of QM (Pamulu, 2010). The question is, therefore, what makes the company continues to implement TQM in an environment that is high risk in terms of the economic environment? For that reason, this study will explore a company`s motives as it engages in the implementation of TQM operating performance.

There is still a lack of studies that have explored a company`s motives and the effects of implementing a TQM (McLean, Antony & Dahlgaard, 2017). In addition, the interactions and additional value caused by the TQM implementation have not been studied (McLean et al., 2017). This research is critical as it may assist Zimbabwean companies to keep their heads at the highest level in a suffering globalised economy. Hence, it results in the potential growth of companies as they face various challenges (Lahidji & Tucker, 2016). Such changes and growth would affect the ability of the country to become economically successful (Sampaio, Saraiva, Guimarães & Rodrigues, 2011).

### **1.3 PROBLEM STATEMENT**

The construction industry in Zimbabwe, it has been observed, inadequately emphasises quality (Nyoni & Bonga, 2017). Criticisms have focused on the construction industry for its hasty

workmanship. It is not only the finished product that is subject to criticism. Among others, it includes people, processes, and materials (Wanderi et al., 2015). These key aspects are critical for improving quality in the construction sector. The construction industry as a whole aims to offer and sustain quality services (Wong & Fung, 2009). However, the industry faces extensive delays, excessive costs, and questionable workmanship quality due to poor implementation of TQM. Therefore, companies should implement effective TQM for the benefit of sustained economic growth (Sirvanci, 2004).

The construction industry is globally recognised as a dynamic economic sector. It is widely viewed as an engine that drives infrastructural development in Africa and is a huge centre of economic development of Southern African Development Community (SADC) countries (Nyoni & Bonga, 2017; Wanderi, Mberia & Oduor, 2015). This study presents critical elements necessary for the management of TQM implementation. Furthermore, the study introduces how cultural change is necessary for the successful implementation of TQM in the construction sector in Zimbabwe. However, management at every level seems to struggle with the implementation of TQM (Buckingham & Coffman, 2014).

Furthermore, considering today's rapidly changing business environment, companies, to be successful, need to maintain customer satisfaction in order to generate sustainable profits (Buckingham & Coffman, 2014). Customer contentment is achieved through provision of quality products and services. For this to happen, companies are required to implement TQM. According to Bryde and Robinson (2005), most contractors fail to meet stakeholders' needs on cost, quality and time. It is therefore important to conduct research on why companies in the construction industry are failing to deliver quality products by investigating how they are implementing TQM. This study seeks to establish how a selected company is implementing TQM, focusing on a specific construction company in Zimbabwe.

#### **1.4 RESEARCH QUESTIONS**

- How does top management influence the implementation of total quality management in a construction company in Zimbabwe?

- How does employee empowerment influence the implementation of total quality management in a construction company in Zimbabwe?
- How does organisational culture influence the implementation of total quality management in a construction company in Zimbabwe?
- How does the use of technology assist the construction company in the implementation of total quality management Zimbabwe?
- How does the construction company overcome some of the challenges involved in the implementation of total quality management in Zimbabwe?

### **1.5 RESEARCH OBJECTIVES**

- To evaluate the influence of top management on the implementation of total quality management in a construction company in Zimbabwe;
- To investigate how employee empowerment influences the implementation of total quality management in a construction company in Zimbabwe;
- To determine how the organisational culture influences the implementation of total quality management in a construction company in Zimbabwe;
- To evaluate how the use of technology is assisting the construction company in the implementation of total quality management in Zimbabwe;
- To analyse the challenges faced by the construction company in the implementation of total quality management in Zimbabwe;
- To examine the strategies used by the construction company to overcome some of the challenges faced in the implementation of total quality management in Zimbabwe.

### **1.6 RATIONALE OF THE STUDY**

There is a scarcity of research on the implementation of TQM globally (Subrahmanya, Bhat & Rajashekhar, 2009). Previous studies on this subject have explored the implementation of TQM in developed countries (Savolainen, 2000). The results of a study conducted by Baidoun (2003) revealed that the commitment and participation of top management is important for the success of TQM implementation. A study by Yusuf and Aspinwall (2001) discussed the procedure of implementing TQM in SMEs. The results of the study indicated that most SMEs do not have the capacity to implement TQM (Yusuf and Aspinwall, 2001). As a result, they only implement TQM

in parts (Yusuf and Aspinwall, 2001). A study conducted by Sohal and Terziovski (2000) discussed trends in the adoption of TQM practices in Australia. The study also investigated the barriers to implementation of TQM. The study concluded that there is no best method for implementing TQM philosophy (Sohal & Terziovski, 2000). A study by Wanderi, Mberia and Oduor (2015) provided an example of how to implement TQM in Rwandan construction companies. The study revealed that commitment of top management, training of employees, organisational culture, and communication are critical factors in the implementation of TQM (Wanderi et al., 2015). The study recommended that construction companies and other organisations implementing TQM should consider measures to ensure senior management's involvement for quality advantages. Lastly, a study conducted by Joubert, Cruywagen & Basson (2005) examined the problematic quality issues in the South African construction industry. The study also investigated whether the implementation of a TQM scheme in the industry would improve the situation in the industry (Joubert et al., 2005). The findings revealed that all the companies which participated in the study failed to implement TQM and there was no evidence of top management commitment to implementation of TQM (Joubert et al., 2005). Studies in SADC countries show that there is still a gap in the implementation of TQM (Al-Sabek, 2015). Therefore, there is a need to create competitiveness through the application of TQM (Al-Nabhani, Taderera & Karedza, 2013). However, there is a scarcity of research studies of TQM implementation in developing nations such as Zimbabwe. Hence, this study addressed a research gap regarding the implementation of TQM in developing countries like Zimbabwe.

## **1.7 SUMMARY OF RESEARCH METHODOLOGY**

Research methodology includes the universal rules and measures upon which a research program is based (Ahadzie, 2007). In this research a qualitative method was used. Furthermore, the constructivism paradigm was employed as it relies on peoples' perceptions and values their assumptions and backgrounds (Hennink, Hutter & Bailey, 2011). The study is exploratory in nature. A case study approach was used to answer questions of 'how' and 'why' TQM was implemented and how the actions involved experiences of the phenomenon (Creswell, 2013). The constructivism paradigm was used as it seeks to understand the rules that people use to solve problems. Furthermore, constructivist's researchers choose to work with qualitative data as it provides rich images of social ideas (Saunders, Lewis, & Thornhill, 2016). By using this

constructivism paradigm, it allows researchers to enjoy co-operating with participants on the importance of how and why TQM should be implemented in their organisation. According to Saunders et al. (2016), constructivists promote the need for a researcher to understand the distinctions between people in their purpose as social actors as well as emphasizing the difference in studying humans and objects. Constructivists do not adopt a theory instead they form a theory, inductively from opinions and experiences of research participants (Creswell, 2013). Therefore, the study was able to draw meaning from the experiences of participants through interviews conducted (Creswell, 2013). The study for the construction company was carried out in Harare, the capital city of Zimbabwe. The researcher chose to do the research in Harare because the organisation and its head office are based there.

Target population refers to the group of people which the researchers regard as appropriate for the study. (Chan, Chan, Lam, Yeung, & Chan, 2011; Welman et al., 2005). According to the Human Resource Manager, there were fifteen (15) individuals who occupied management positions in the company. These management positions are classified into three levels, namely senior, middle and low management. The target population of the study was made up of the fifteen managers. The study adopted a census approach. Therefore, the target population and the sample size of the study are the same. Due to the fact that a census approach was adopted for the study, it implies that no sampling technique was required. Pickard (2007) describes sampling as a procedure of choosing a few from the several so as to carry out a practical investigation. The fifteen managers were invited to participate in the study. However, only seven managers were available to participate in the study. Data collection is a term used to define a procedure of formulating and gathering information (Srivastava & Thomson, 2009). Primary data was collected using in-depth interviews. Data was analysed using the NVivo software.

Validity explains whether the research measured what it intended to measure or the factual accuracy of the results (Golafshani, 2003). Reliability is the degree to which outcomes of the research are consistent over a period (Golafshani, 2003). There are three types of validity, namely descriptive, interpretive and theoretical (Creswell & Miller, 2000). The study used theoretical validity. It was achieved through linking the research items to the theoretical framework of the research study. The research objectives were developed from the constructs of the theoretical

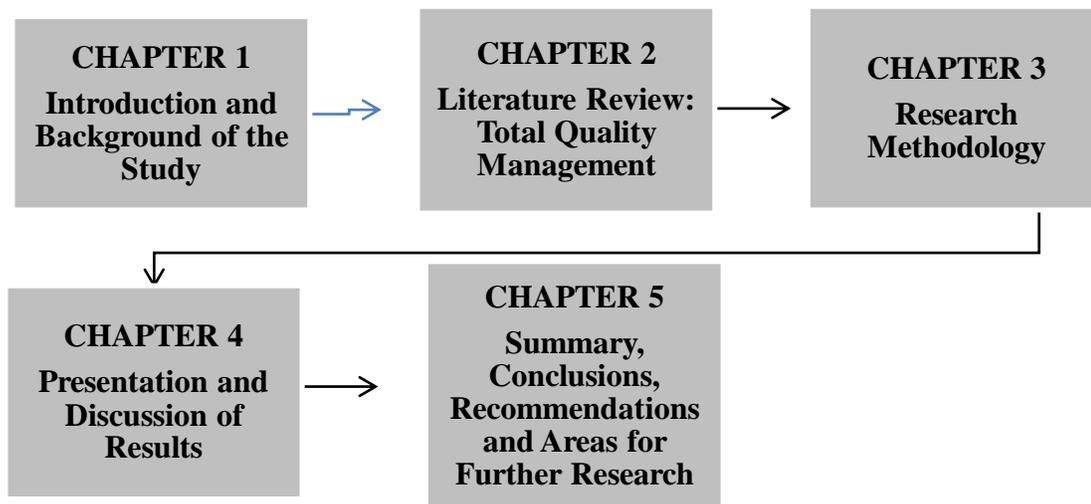
framework. In addition, the interview questions were developed based on information gathered from the literature review. To ensure reliability of the research instrument, a pilot test was conducted with two individuals. The data collected from the pilot study was not included in the data analysis. Ethical clearance for the study was approved by the University of KwaZulu-Natal.

### **1.8 LIMITATIONS OF THE STUDY**

The limitation of the study is that it focused on a case study of a particular company operating in a specific geographical area, in Zimbabwe. Therefore, the results of this study cannot be generalised to the entire construction industry in Zimbabwe. However, the study provides insight as to how managers experience the implementation of TQM and in particular managers, in a construction industry in Zimbabwe.

### **1.9 Structure of the dissertation**

The dissertation structure is shown from chapter 1 to chapter 5 with the chapter headings, in **Figure 1.1** below.



**Figure 1. 1 Structure of the dissertation**

**Source:** Author's own compilation.

#### **Chapter 1: Introduction and background of the study**

Chapter 1 provides an overview, the rationale of study, and the background of the study.

## **Chapter 2: Literature review and background of TQM**

This chapter reviews the literature on TQM and goes on to explain the methods used by different companies when implementing TQM. It discusses theory and previous research carried out in both developed and developing countries on how they implement TQM. The theoretical framework which guides TQM's success is explained with attention to certain factors. The chapter then explores factors such as top management, organisational culture, employee empowerment, and communication and technology. It is noted that technology can be of much support during the TQM implementation process for effective communication and ease in technical drawing. The chapter also presented some of the challenges, benefits, and strategies used by construction companies to implement TQM for sustainable growth.

## **Chapter 3: Research methodology**

Chapter 3 includes a detailed description of the research methods used for the study. Several research methods, strategies, and processes were considered, selected and evaluated. The population and sample were purposely selected. In-depth interviews were used to collect data. The data was analysed using NVivo. Validity and reliability were used to test the investigator's tools, and finally, the trustworthiness of the data was provided through credibility, transformability, dependability, and conformability. Pilot testing of the research instruments is discussed.

## **Chapter 4: Presentation and discussion of results**

This chapter presents and discusses the results. In-depth interviews were recorded, and the themes are identified as results. The results of the study are discussed in line with the objectives of the study. The dialogue is guided by the literature on a theoretical analysis of TQM implementation, as discussed in the literature review chapter.

## **Chapter 5: Summary, conclusions, recommendations and areas for future research**

This chapter comprises the summary, conclusions, recommendations, and areas for future research based on the findings attained from the secondary and experimental evidence. The chapter explains the boundaries of the study and offers proposals for future research to the management.

### **1.10 Chapter summary**

This chapter provides the main purpose and incentive for the study. It highlights the background and context of the study, the research problem, research objectives, research questions and rationale of the study. This is followed by an overview of the research methodology and study limitations. Finally, the structure of the dissertation is presented. The following chapter reviews the literature and background of TQM applicable to this study.

## CHAPTER 2

### LITERATURE REVIEW – TOTAL QUALITY MANAGEMENT

The previous chapter discussed the introduction and background of the study for the implementation of TQM. This current chapter will be discussing the literature review of total quality management (TQM).

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#### 2.1 INTRODUCTION

The previous chapter provided an introduction to the study. This chapter reviews literature on TQM with specific reference to the Zimbabwean context. The objective of the study is to highlight the gap regarding the implementation of the TQM concept in Zimbabwe. Theoretical perspectives in support of the concept are discussed. Although the focus of this chapter is mainly on research conducted on the implementation of TQM in Zimbabwe, it also relates to other construction industries and the rest of the world.

Murray and Michalak (2012) state that TQM is a method that seeks to develop quality and performance, in order to meet or exceed client hopes. Quality performance can be achieved by integrating the entire array of quality functions and processes throughout the organisation (José Tarí & Molina-Azorín, 2010). This chapter reviews related literature on TQM. The chapter starts by discussing the background of TQM, the theoretical framework, quality management, and gurus. The current literature on implementation of TQM and factors impelling effective and continuous improvement of TQM is also discussed in this chapter. Lastly, the chapter is summarised.

#### 2.2 BACKGROUND OF TQM

TQM is perceived to be an instrument for achieving excellence in an organisation. There are four factors that affect the implementation of TQM. These are top management, employee empowerment, organisational culture, and communication (Sharma & Kodali, 2008). However, the most critical issues in the implementation of TQM are top management commitment, availability of critical resources, development of organisational policy, well-developed communication process, and total involvement of employees in the organisation (Omware, 2012; Arshida & Agil, 2012). While scholars have explained the different factors that impact on

organisational implementation of TQM, the use of technology in the implementation of TQM has not been fully explained (Arshida & Agil 2012; Konecny & Thun 2011; Sharma & Kodali 2008).

The concept and implementation of TQM is central to a company's global competitiveness (Sharma & Kodali, 2008). In order to satisfy clients and gain their loyalty, globally competitive organisations need to develop advanced levels of quality (Konecny & Thun, 2011). The TQM philosophy, processes, and methods are applied in organisations that intend to coordinate international trade in the context of worldwide competition. Sharma and Kodali (2008) argue that in the two previous decades, TQM has helped organisations to manage effectiveness and performance, to enable them to achieve a world-class position. The greatest strategy for an organisation's development is commonly recognised as quality (Sallis, 2014). There is no other way except implementing the TQM concept (Pheng & Teo, 2004).

The business concept of TQM offers an effective and efficiency way of providing products and services which is the key to fulfillment of business strategy (Konecny & Thun, 2011). The principles and concepts of the TQM philosophy are angled on increased commitment to organisational quality. Hence, if the philosophy of TQM is applied correctly, it improves the competitive position of an organisation. With TQM philosophies, better quality and productivity is achieved (Arshida & Agil, 2012). This prevents the increase of business costs. In addition, TQM helps to support and fulfill the concept of excellence in the construction industry. Effective construction organisations should include TQM and realise its valuable input. The importance of TQM for achieving service excellence cannot be denied as TQM effective tool for achieving organisational set goals. Hashmi (2007) states that TQM is the outcome of the entire events in the management programme. It is a unique strategy for challenging both the manufacturing and service industries globally (Sharma & Kodali, 2008).

There are several frameworks and theories recommended for the implementation of TQM fundamentals (Konecny & Thun, 2011). However, the question remains whether the existing frameworks and theories are adequate to cope with the global scenario changes (Miyagawa & Yoshida, 2010). In this study, effort has been made to recognise the elements of TQM necessary for its implementation which lead to excellence delivery of in the construction company. However, to ensure that the TQM survives, it is critical that the assessment of organisational culture is done

and operational adjustments are carried out to improve adaption of the organisation to the rapid industrial and market changes. In addition, the involvement of top management leadership is essential. Customer loyalty has to be maintained at the highest levels to complement efforts made towards improving organisational performance. Furthermore, challenges emanating from employee adaptation to changes brought in by introduction of TQM should be recognized and aligned to employee needs and goals of the organisation.

The overall objective of TQM is to ensure continuous improvement in the organisation (Zavareh, Ariff, Jusoh, Zakuan, Bahari & Ashourian, 2012). Continuous improvement can result in improved customer service and increased profits through effectiveness and efficiency in the whole organisation (Ariff et al., 2012). The organisation's benefits and its customers' satisfaction are associated to the implementation of TQM. Total quality management is viewed as a double-sided competitiveness tool. The great value for any organisation is that TQM can be implemented regardless of neither its size nor its procedures. Kaynak, (2003) states that a successful implementation of TQM depends on the organisation's strategy and how it understands the process. Wanderi (2015) suggests that when implementing TQM, the process must be organised and include everyone. Furthermore, each function in an organisation must be involved, with management taking the main role. There are high profile awards for TQM, including Malcolm Baldrige award in the USA, Deming prize in Japan, European quality price, and Singapore quality reward (Prajogo & Sohal, 2006). These awards are given to organisations that utilise QM excellence in the implementation of TQM (Kaynak, 2003). This is done for organisations to achieve "world class" standards (Arumugam & Fong, 2008:87). Currently, TQM has been extensively practiced in manufacturing and services (Kaynak, 2003). This means that TQM has its origins in business and services. Therefore, its early description is related to the quality of products.

Arumugam and Fong (2008) defined TQM as an indicator that holds within it certain concepts, methods, tools, and techniques. The method serves a functional business strategy from the top-floor to the shop-floor. Minor and large service organisations are increasingly implementing TQM. Therefore, the description of TQM covers aspects such as recognising the importance of behavioral factors like employee empowerment, top management commitment, organisational culture, and customer focus. In the manufacturing industry, TQM is mostly concerned with processes rather

than human factors. Manufacturing and service of TQM philosophy share mutual characteristics regardless of minor differences. José Tarí (2005) developed eight points for quality management as established in the literature. The factors include top management leadership, quality data and reporting, training and education, workers dealings, process management, product/service design, supplier quality administration, and quality sector role. The Baldrige Award model for an emerging empirical framework of TQM has been used (Dermirbag, Tatoglu, Tekinkus & Zaim, 2006). The outcome shows that top management participation, employee training and empowerment, and organisational culture remain the key critical factors in the implementation of TQM. Dermirbag et al. (2006) state that TQM is a development that takes time and a significant amount of resources. The TQM process needs to be embraced by the top management. This means that senior management has to provide all the essential resources. In addition, the senior management must be willing to adopt the organisational structure and culture of the company as required. This process must focus on meeting customer needs. Furthermore, the process requires the total involvement of every individual in the organisation. These individuals must have excellent skills and teamwork which calls for continuous improvement, employee training and growth (Arshida & Agil 2012). The Malcom Baldrige National Quality Award (MBNQA) developed six criteria that can be used to measure TQM (Wali & Boujelbene, 2011). The criteria include management policy, preparation, client focus, data management, investigation of individuals, and process management. There are factors that may avert a fruitful implementation of TQM (Wali & Boujelbene, 2011). Arshida and Agil (2012) call these factors barriers or challenges to TQM implementation. These factors include a shortage of senior management involvement, which is linked with critical resources shortage. Others factors include disadvantaged leadership for employee empowerment and incentive, and weak organisational vision (Wali & Boujelbene, 2011). An additional important factor is the effect of government as it is associated with bureaucracy and other slow systems (Arshida & Agil 2012). In support of this, shortage of positive quality policy or little government support for quality programs makes it a challenge to adapt and implement quality initiatives.

### **2.3 THE CONCEPT OF QUALITY MANAGEMENT**

Quality management (QM) is an approach that enables organisations to gain market share and price advantage. Therefore, organisation effort, teamwork, and commitment from all employees

cannot be under-emphasised (Oakland, 2011). There are continuing arguments about the meaning and execution of quality (Palaneeswaran & Kumaraswamy, 2006). Quality is a characteristic of a product or a service that guarantees its acceptance over competitors (Akao, 2004). From a construction viewpoint, achieving good quality is equivalent to the satisfaction of the net expectations of the project participants, who are part of the stakeholders (Barrett, 2009). Consistent with the preceding viewpoint, quality is the worth of a product or a service in relation to its conformity to standards (Palaneeswaran & Kumaraswamy, 2006). As the globalisation of industries and economies continues, it is, therefore, necessary for Zimbabwean construction markets to develop competitiveness globally (Oakland, 2011). In order to thrive in local and global construction markets, Zimbabwean construction organisations need to partake in the growth and implementation of international standards. Customer satisfaction and employee empowerment are seen as the main elements in TQM construction (Karna, 2004).

According to Taylor, Bogdan and DeVault (2015), top management's input and client's focus are important experiences in TQM success. A study conducted by Feng, Terziovski, and Samson (2007) revealed that leadership and human resource management (HRM) are among the strong predictors of TQM. According to Carmeli (2003), senior management involvement is a key factor in TQM for construction organisations. Consistent with Carmeli (2003), other arguments affirm that senior management commitment is the highest influence for the successful implementation of ISO9000 (Chin et al., 2006). Haupt et al. (2004) argued that the involvement of top levels of management in activities results in a reduction of common TQM difficulties usually seen on construction sites. Therefore, management commitment to quality and continuous growth are the keys to each phase of the construction process (Taylor et al., 2015). Based on the foregoing arguments, it is essential that management understands and supports TQM implementation, rather than choosing to delegate (Taylor et al., 2015).

## **2.4 QUALITY MANAGEMENT AND GURUS**

The first guru to introduce the concepts behind quality management (QM) was Henry Ford (Reis, Pena & Novicevic, 2002). Henry Ford introduced assembly line manufacturing. The next leap forward in the introduction of TQM was by W. Edwards Deming. The principles of Deming focused on procedures to do things right at the first stage, without creating deficiencies, by using

the TQM notions (Forbes & Ahmed, 2011). The Toyota production scheme was then introduced by Toyota. The Toyota production scheme focused on structuring superior competence into production procedures. This concept is more generally recognised as lean manufacturing (Zink, 2012). Three groups of quality gurus have been identified. It began in the period between 1940 and 1950 when the Americans had borrowed the quality messages from Japan. This was then followed by the late 1950s when the Japanese developed new ideas learned from the Americans. Later in the 1970s to 1980s, there were Western gurus who followed the Japanese industrial achievements (Bergman & Klefsjö, 2010). Total quality management (TQM) has been studied using different methods, namely assistance from quality leaders, and empirical study. According to Fotopoulos and Psomas (2009), arithmetical techniques can be used for quality control, and they suggested 14 philosophies of developing quality in organisations. The principles were established on concepts of management, development philosophy, the correct production from the beginning, training managers and employees, internal communication aimed at the exclusion of problems to cooperation, and the suppression of quantitative ideas (Sureshchandar, Rajendran & Anantharaman, 2001).

An empirical study revealed that quality is an essential issue in the modern competitive corporate world (Dahlgaard, Khanji & Kristensen, 2008). Defining quality is very important for any organisation involved in the quality improvement process, as it enables employees and management to channel their labors into the vision of the company and their quality development goal. However, there is no generally acknowledged definition of quality (Sureshchandar, 2001). One can find a variety of definitions of quality provided by different writers (Reis et al., 2002). In addition, quality has been described as the entirety of features of a product or service (Palaneeswaran et al., 2006). Quality has been defined as a creation or facility “that helps somebody and enjoys a good sustainable market” (Deming, (1982) theory cited in Arokiasamy, & Abdullah, 2012:1-16). Another guru, Joseph Juran, labels quality through the expression “fitness for use by the customer” (Abraham & Suganthi, 2013:287-312). Crosby (1979) and Schiffauerova and Thomson (2006:647-669) outline quality as “conformance to requirements or standard”. Van-Ho (2011) states that Crosby (1980) and Feigenbaum (1991) define quality as the complete compound of product including the service characteristics of the product’s marketing, engineering, manufacturing, and maintenance. Oakland (2011) similarly defines quality as meeting the

customer requirements. The requirements might cover obtainability, distribution, dependability, upkeep, and cost efficiency between numerous features (Arokiasamy & Abdullah, 2012). The important parameters for effective implementation of TQM are the formation of obligation, and cultural change, together with the entire employee's empowerment (Oakland, 2011). Regardless of difficulties, commitment is recognised as key to the persistent pursuit of goals. The greatest risk to successful implementation is an uncommitted management team. A committed management team ensures commitment through various activities which take place in the company (Arokiasamy & Abdullah, 2012). These activities can be subdivided into characteristics such as supporting, authorising, handling and, foremost, through exemplarity.

Linderman, Schroeder, Zaheer, Liedtke and Choo (2004) identified 14 steps for quality development. These include senior and middle management obligation, assessment of quality expenses, corrective action and quality measurement, training a zero-defect thinking, objective setting, and workers awards. Furthermore, Yong and Wilkinson (2001) identify the technical and decision-making facets. Linderman et al. (2004) state three basic roles of QM procedure, namely, preparation, organisation, and control, as the steps for quality enhancement. The authors Yong and Wilkinson (2001) indicate that the main goal of management is to reduce the costs of errors (Sila & Ebrahimpour, 2003). Linderman et al. (2004) argue that the idea of total quality is based on leadership and sympathy toward excellence enhancement. Fotopoulos and Psomas (2009) posit that QM is a commitment to integrate quality into the company procedures. In addition, QM requires the involvement of all employees to reduce total quality costs.

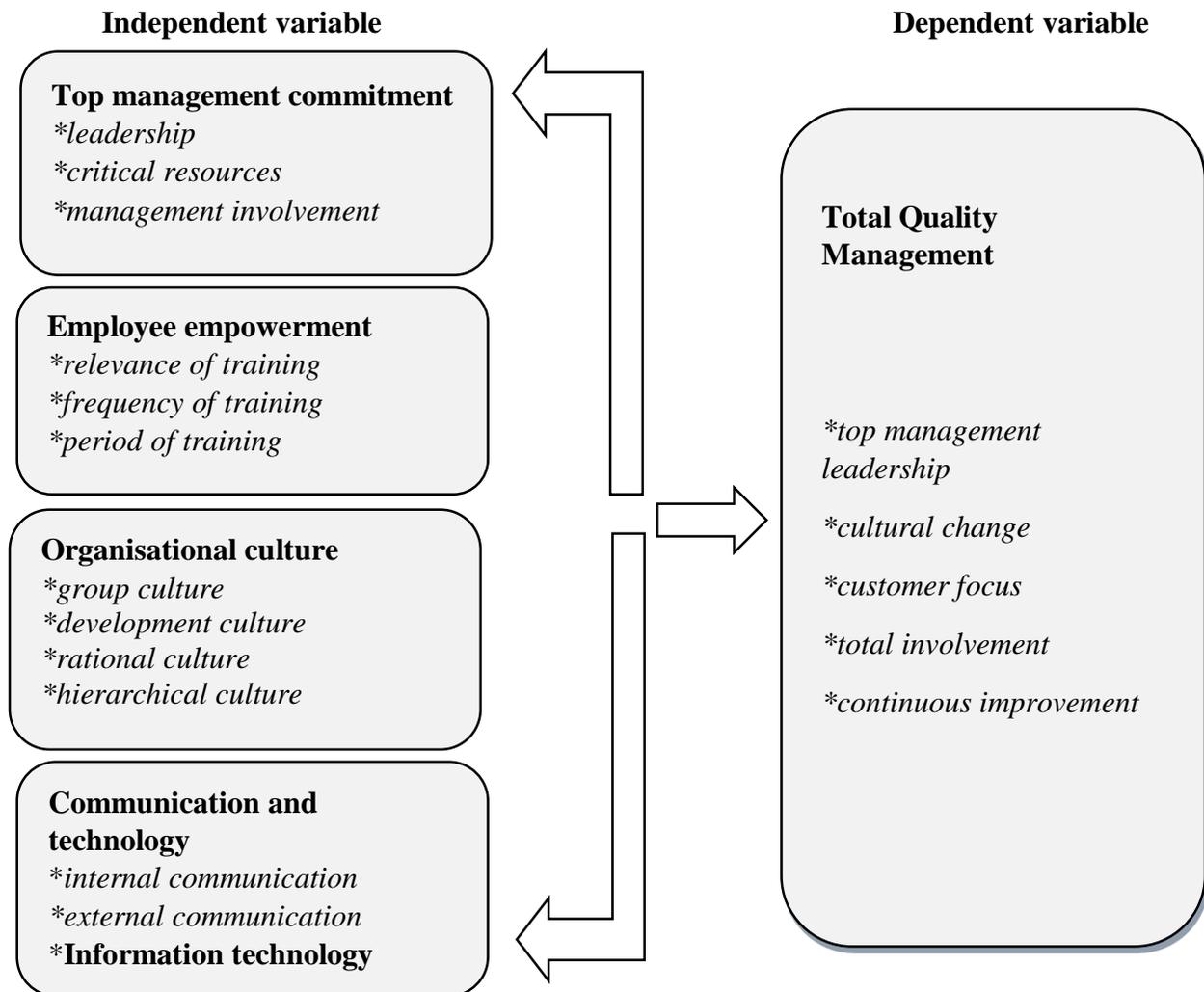
## **2.5 THEORETICAL FRAMEWORK**

According to Deming's (1982), theory is a management philosophy established in systems theory. People have a tendency to make up a system's components based on principles and related processes. According to Talib, Rahman & Qureshi (2010), the system underlying all workers' success is dependent on management's capability. The management creates a delicate balance between each component for optimisation of the entire system (Talib, Rahman, & Quresh 2011). Biazzo and Bernardi (2003) state that management's responsibility is to understand the company's processes and systems. Furthermore, the responsibility hinges on understanding different knowledge levels of employees in the organisation. According to Deming's system theory (Kelly,

2013), four points, management commitment, positive corporate culture, employee`s empowerment, and proper communication systems are dominant in the successful implementation of TQM (Goetsch & Davis, 2014). Prajogo and Sohal (2006) also investigated the correlation between TQM and organisational structure. The findings revealed a link between TQM and organisational performance (Goetsch & Davis, 2014). Leadership provides direction to the entire process of TQM. Managers need to be the source of inspiration that motivates their employees and helps them in decision making. Therefore, managers should support the education and training of employees in order to implement TQM successfully (Douglas & Judge, 2001).

## **2.6 THEORY-BASED MODEL OF TQM IMPLEMENTATION**

The figure below shows independent variables and dependent variable of TQM implementation. **Figure 2.1** illustrates a theoretical ideal of TQM implementation.



**Figure 2. 1 1986 Deming`s theoretical framework on the implementation of TQM**

**Source:** Shewhart and Deming (1986); Douglas and Fredendall (2004)

The dependent variable in this study is TQM practices while independent variables are the factors influencing implementation. The independent variables are top management commitment, employee’s empowerment, organisational culture, and communication, which include technology. The researcher added on technology as it contributes to the effectiveness and efficiency of communication in the organisation. The use of technology is important for designing and directing the implementation of TQM (Talib & Rahman, 2010). The concept of off-site and on-site is closely related to manufacturing. This concept draws on principles which seek to develop quality, and to achieve the decline in waste and progress in productivity of the complete build development (Talib & Rahman, 2010). Thus, technology is important in the implementation of TQM.

Kaynak (2003) posits that technology is important in facilitating organisational performance. Alignment of both technology and TQM is critical in enabling quality and innovation in manufacturing processes. Talib and Rahman (2010) posit that there is a relationship between TQM and technology. The relationship is driven from understanding the major issues that are confronted by manufacturing companies. Firstly, Kaynak (2003) posits that an understanding of the co-alignment between TQM and technology management is often addressed in a separate method by bridging the gap between the two areas. Secondly, Kaynak (2003) observed that integration of these two critical concepts improves quality and innovation output in the organisation. The influence of integration has been considered as the primary source of competitive achievement. Talib and Rahman (2010) posit that TQM, innovation and technology have similar drives and importance in organisations' performance, especially in a service industry. The objective of the two is to increase customer satisfaction with the ultimate goal of increasing competitive advantage (Kaynak, 2003).

Henderson (2004) posits that technology is widely recognised as an important business aspect for enhancing job performance and increasing employee performance. For instance, the advent of Information Technology (IT) facilitates cross-training of employees across all departmental functions in the manufacturing industry. Furthermore, IT eliminates most manual and paper-based tasks and permits workers to perform their daily routine tasks more efficiently. Therefore, the quality of work is increased amongst workers with advanced skills and knowledge. Talib and Rahman (2010) state that relying on IT is more profitable because it is a key impact mediator in enhancing services offered by construction companies. Kaynak (2003) and Talib and Rahman (2010) suggest that IT is classified into different cost categories. These include low-cost, medium-cost, high-cost and revolutionary technology, and incremental technology ID. The incremental technology ID is the critical element in logistics services and supports daily operations (Kaynak, 2003). The adoption of IT increases development in performance levels, and the competitive advantage of organisations is increased. Technology is widely used to integrate operations in supply chain companies which are important drivers of construction companies. Therefore, technology supports the integration of the internal and external operations activities which are essential in complementing TQM strategy. Henderson (2004) argued that the growth of TQM

technology has four major external causes in the organisation. Gradually, technology is supporting the supply chain in enabling preferred linkages. Brah and Ying Lim (2006) analysed the contribution to performance of the internal and external integration processes where they find a strong linkage between TQM and technology in enhancing supply chain activities. A positive relationship between the internal and outside linkage procedures was created (Talib & Rahman, 2010). It was by both TQM and technology. It is also established that technology enhances inside and outside collaborations (Brah, Ying & Lim, 2006).

An implementation process involves creating helpful circumstances to enable a well-ordered flow of the whole process of change (Forbes & Ahmed, 2011). This involves senior management employees. For instance, great management would entail a management commitment, employee empowerment, customer satisfaction, profit and growth of the organisation (Forbes & Ahmed, 2011). The dependent variable, which is TQM, includes senior supervision leadership, cultural adjustment, consumer focus, total involvement, and unceasing growth (Henderson, 2004). The focus of this research is to detect how TQM is initiated and then adopted into actual practice.

## **2.7 TOP MANAGEMENT AND IMPLEMENTATION OF TQM**

In most business decisions, the critical role of decision making is performed by senior management (Alharbi & Yusoff, 2012). The achievement of any acute business outcome organised in organisations is highly dependent on senior management's commitment (Zakuan, Muniandy, Saman & MdArif, 2012). Quality issues have become of great importance to all organisations, as the leadership contributes significantly towards the successful implementation of TQM (Antonaros, 2010). All leaders and managers need certain highly developed skills; for example, executive-quality leadership knowledge of systems and change (Zakuan et al., 2012). Once the top management displays the entire range of skills, then it means TQM implementation is considered an extra positive. Alharbi and Yusoff (2012) state that it is important not only to provide ongoing training in the development of a structure and thinking but also offer training in quality systems.

Senior management plays an important role by making critical resources available. In addition, the top management establishes an organisation's quality policy that is sound and communicated to all stakeholders. Top supervision establishes a quality management structure (QMS) and manages

the entire process through close monitoring and evaluation. Sharp, Balzarova, Castka and Bamber (2003) support an organisational culture (OC) climate of open cooperation and teamwork among stakeholders in quality management. Previous studies (e.g. Zakuan et al., 2012; Deming, 2013) state that leaders need to establish a leadership team for the guidance of the quality change process. With the senior superiors communicating and placing the importance of TQM systems within a holistic scheme, top managers become important for the upkeep of a joint TQM model (Skarzynski & Gibson, 2008). This means that top managers' participation becomes a necessary element to ensure the fruitful implementation of TQM (Arshida & Agil, 2012).

Top management is crucial from the inception of the quality management process. Arshida and Agil (2012) state that TQM is believed to be an organisational change process related to instability. Therefore, employees' confusion and resistance must be wisely managed through unswerving management involvement. Omware (2012) posits that adoption of TQM for the first time is related to developments in organisational policy, together with procedures and tools to be learned. Hence, it is important that leaders develop perfect quality missions and goals (Arshida & Agil, 2012). This will help the organisation to recognize quality values and communicate them to workers. Further, it benefits the quality planning process in achieving a successful TQM implementation (Sajjad & Amjad, 2012).

### **2.7.1 Leadership and implementation of TQM**

The management leadership contributes greatly to the successful implementation of TQM. Managers need special skills of quality, leadership and change management for them to remain fruitful in the implementation of TQM (Antonaros, 2010). Mustafa & Bon (2012) posit that TQM implementation and growth are aimed at the fruitful benefit of great leaders (Mustafa & Bon 2012). The greatest organisational leaders require at least 2 years in skilled implementation of TQM, while the normal duration is 2 to 5 years in Malcolm Baldrige National Quality Award (MBNQA) implementation (Antonaros, 2010). Leadership is essential for the drive towards and achievement of excellence growth. It defines the role and duties of every group making ultimate choices concerning the distribution of resources (Ramlan & Tan, 2011). According to Govindarajan, Kopalle and Danneels (2011), most organisations which lack management also have unfriendly relationships among practical and effective areas of team work. Top management practice has been

seen as a constructive influence on different service organisation on TQM (Ramlan & Tan, 2011). The abilities of management can significantly enhance, for example, work ethic, values, commitment and skills (Antonaros, 2010).

An organisation has to promote cooperation in management rather than competition. Furthermore, management motivates workers through clearly stating goals sought through performing the duties engaged in the occupation (Ramlan & Tan, 2011). Top management organises leadership commitment and promotes worker's involvement in the organisation through learning and training. The greatest leadership commences with clear vision and direction, which can nurture information input and create an obligation (Andersson, Eriksson & Torstensson, 2006). Deming (2013) urges managers to establish leadership to guide the quality transformation process. Furthermore, Crosby (1979) states that top management involvement is the vital element for the safeguarding of TQM implementation (Zairi, 2013). To communicate quality policy across the organisation, top management should, therefore, produce a favorable environment that encourages continuous development of TQM. In addition, top management commitment is seen as essential in the formation of quality values. This management system guides all activities that contribute to quality excellence in the organisation (Brah, Tee & Madhu Rao, 2002).

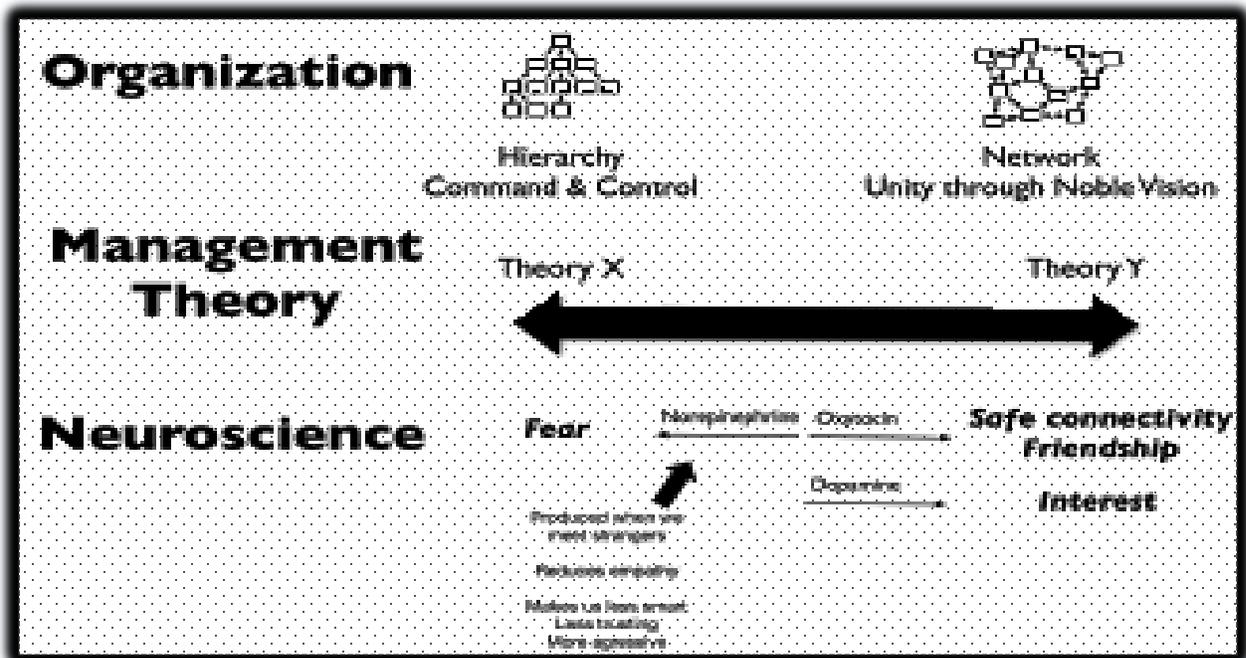
## **2.8 EMPLOYEE EMPOWERMENT AND IMPLEMENTATION OF TQM**

Employee empowerment requires a horizontal organisational structure instead of an out-dated top-down organisational structure, which tends to prevent employee empowerment (Govindarajulu & Daily, 2004). Employee empowerment has many possible advantages to the company, for example, better employee commitment, great decisions and an increase in employee satisfaction (Yukl & Becker, 2006). Employees enjoy independence within themselves, when they are empowered with decision-making power (Govindarajulu & Daily, 2004). As an example, there is a positive percentage of employee participation in environmental growth programs. Environmental growth entails an organisation's authority sharing its supremacy with workers to engage in eco-friendly matters (Thamizhmanii & Hasan, 2010). Managers rely on employee empowerment as it increases the chances of successful implementation of TQM. Therefore, TQM emphasises the importance of culture, including all workers in the process, and valuing their contribution to work performance growth (Greasley, Bryman, Dainty, Price, Naismith & Soetanto, 2008). Employee

empowerment is related to a company's quality culture (Bon & Mustafa, 2013). According to Vouzas and Psychogios (2007), the empowerment practices inside the managing procedure in a company offer the needs of the entire theory of employee empowerment. The McGregor X-Y theory is a useful tool of management theory, which consists of the organisation hierarchy levels, network levels, and neurosciences, which includes fear and safe connectivity.

### 2.8.1 Management theory of McGregor

The following **Figure 2.2** explains the McGregor theory X and Y of management.



**Figure 2. 2 McGregor XY Theory**

**Source:** Carson (2005: 450-460).

The McGregor X-Y theory is a useful tool, recapping the usual guidelines for the supervision of employees (Greasley et al., 2008). The McGregor theory proposes that there are two essential approaches to managing employees, either using theory X or Y. Most managers tend to use theory X and normally develop poor outcomes. Theory Y provides healthier performance and results. It also allows individuals to grow and develop in themselves. Employee participation is the result of motivating workforces towards contribution through management development and decision-making (Vouzas & Psychogios, 2007). Employee involvement has taken many forms since the

time when McGregor's Theory Y initially brought knowledge to leaders of managing styles (Yang & Konrad, 2011). The theory includes work design methods and superior events like quality of work life (QWL) programs. This theory clearly states that the single item that distinguishes any organisation from another is its people and not the product or service creations or processes (Yang & Konrad, 2011). The Japanese have always recognised this theory and it is the main reason it has sustained its presence in the global markets (Neilson, Pritchard & Yeung, 2014). They emphasize the great importance of the combination of people with their organisational intents, equipment, and processes.

Bowen and Lawler (2006:213-220) states that "employee involvement", if soundly executed, modifies the important relations amongst persons and the organisation. Employees will do more to make the organisation successful as they have become business partners and participants in organisational decisions. McGregor Theory X was recognised as the model which assumed that workers were drones, without ambition or initiative, in professions where the human component is essential and had to be punished and bullied by superiors to achieve results (Merrill, 2015). The following distinguishes the difference between theory X and theory Y.

### **Theory X is described as the 'authoritarian management' style**

In the authoritarian management style, the average individuals hates work and will mostly evade what they can do (Michailova & Husted, 2004). Therefore, most individuals are forced to work towards administrative objectives with the threat of penalty. However, most people prefer to be directed and to avoid accountability that is relatively unambitious, and requires security above everything (Bowen & Lawler, 2006).

### **Theory Y is described as the 'participative management' style**

Participative management style recognises the application of self-control amongst individuals and self-direction in the pursuit of organisational objectives without external control or risk of penalty (Rausch, Hess & Bacigalupo, 2011). The application of self-control allows individuals to accept and often seek responsibility. In the organisation, the intellectual potential of the average individual is partly utilised and the strength for work is as natural as performance work. In addition,

the working population is encouraged to use the highest grade of imagination, ingenuity and creativity in solving problems (Yang & Konrad, 2011).

Piasentin and Chapman (2006) discovered that employee commitment can promote organisational rules. There are ways or techniques which employees' use in decision-making processes. Employee commitment is also seen as supporting the skill of information for the development of the organisation. Previous research studies maintain that job involvement could be created through personal internal and external behavioural attributes (Govender & Parumasur, 2010). Internal involvement is defined by duties that employees perform without any evaluation of their behaviour. Further, the participation of employees in management allows managers to share performance results. This will help employees to understand other employees' goals and values. It has been seen that when implementing TQM, it is important to involve the employees because without the employee's engagement, an organisation cannot function appropriately (Dost, Ahmed, Shafi & Shaheen, 2011). It is a clever idea to always provide the QWL programs which include employee involvement in the quality development procedures.

### **2.8.2 Training and education**

To improve the implementation of TQM systems, the training and educating of managers is required. Therefore, training and education are important for TQM practices (Ooi, 2015). The management role is important for the achievement of total quality and is regularly an unnoticed part of the procedure. Managers and employees are required to be aware of the tools and systems of TQM to implement it successfully (Bon & Mustafa, 2013). Employee involvement programs are understood as opportunities for today's organisation in a competitive environment. Zhang, Waszink and Wijngaard (2000) argue that employee participation is essential for the effective implementation of TQM. McAdam and Kelly (2002) consider employee involvement as an objective of TQM, and one that is essential for its positive implementation. Employee participation programs result in constructive outcomes for an organisation's performance and internal business situations (Kasemsap, 2015). McAdam and Kelly (2002) affirm that employee involvement is the most effective way to adjust organisational culture. The alteration method utilises innovative drives consisting entirely of workers, for problem-solving and development creation (Mak, 2000). According to Baidoun (2003), employee participation is effective and efficient only if workers are

trained and educated in quality management. Reed, Lemak, & Mero (2000) point out that the excellence of quality begins and ends with training. Additionally, McAdam (2002) posit that training and growth are the main mechanisms of all TQM initiatives. Organisations that create learning programs report visible improvements in worker's ability to produce quality work (Cebeci & Beskese, 2002). Training confirms that employees understand and have the capability to perform work effectively; quality is improved and sustained in an environment of change. Total quality management training has to be engaged at every level of the organisation. This is because top managers serve as change agents and role models who must be supported by their employees (Al-Otaibi, 2015). In current research studies on the implementation of TQM, education and training are found to be an essential part of the TQM advantage (Hoang, Igel & Laosirihongthong, 2010).

Training allows employees to learn and change as required by their jobs (Al-Otaibi, 2015). According to Kasemsap (2014), employees are required to rapidly familiarise themselves with changes in their work environment. Furthermore, training promotes the continuous development of knowledge, skills, and adoption of new behaviors. Organisations have acknowledged that training develops employees' knowledge and innovative ideas for output in light of new products, markets, and technologies (Kasemsap, 2014). Organisations which spend enormous time and money in training and education for their employees for job-related competencies result in effective production and efficient service (Cascio, 2000). Some researchers have identified that if trained employees are well equipped, they will be able to share and transfer their knowledge and skills with other employees for the benefit of the effective organisation (Hoang et al., 2010). The importance of effective and transferable training is a strategy to gain a competitive advantage (Kasemsap, 2015). The exchange of ideas through training can become a serious investment issue as sometimes employees need to be trained externally, and this can be costly. According to Holton, Baldwin and Naquin (2000), the greatest issue faced by organisations is the exchange of ideas and skills. This exchange of ideas is an issue because it involves a lot of funds to cover travelling costs and the use of safety clothing. It might not require the migration of employees to different countries nor might the organisation need to hire experts to train their employees. In spite of education, training and other developmental activities are important strategy that results in performance improvements (Kasemsap, 2015). Furthermore, training and education is an important aspect for emerging organisations (Cascio, 2000; Kasemsap, 2015).

Baldrige Award champions stress the importance of training and the capacity of skilled persons to implement and develop what they have learned with the suitable provision of resources (Agostinho et al., 2016). Quality training involves educating and training all workers in order to expand their knowledge and commitment toward vision of the organisation (Al-Otaibi, 2015). This enables employees to advance more skills and effort by improving the quality of their work, and problem-solving ability. According to Cascio (2000), if an organisation requires quality and employee expansion, as well as policy preparation and planning, it determines the amount of training to provide. Therefore, strategic and training planning has to take into consideration future training needs. This strategic training plan is used to predict the future training desires of workers, and customers' demands (Mansell & Beadle-Brown, 2004). Thus, implementation of TQM involves training and education for best quality results.

## **2.9 ORGANISATIONAL CULTURE AND IMPLEMENTATION OF TQM**

It is important to understand the organisational culture (OC) prior to the implementation of TQM as this is necessary for effective implementation (Yiing & Ahmad, 2009). The literature strongly indicates that a suitable culture and appropriate model of OC is important and required for the achievement of TQM. This current research study proposed and tested the competing values framework (CVF) which detects the type of OC in the construction organisation (Prajogo & McDermott, 2005). The model delivers and recognises organisational culture for the study. This type of CVF model was selected by the researcher as it measures four categories of OC (Linnenluecke & Griffiths, 2010). The four kinds of OC include group, developmental, hierarchical and rational cultures (Briscoe, Fawcett, & Todd, 2005). This CVF framework helps to recognise the essential cultural characteristics that are in the organisation (Yeşil & Kaya, 2012). Studies have implemented CVF and, using a questionnaire survey to outline the types of OC, have operationalised its dimensions (Prajogo & McDermott, 2005).

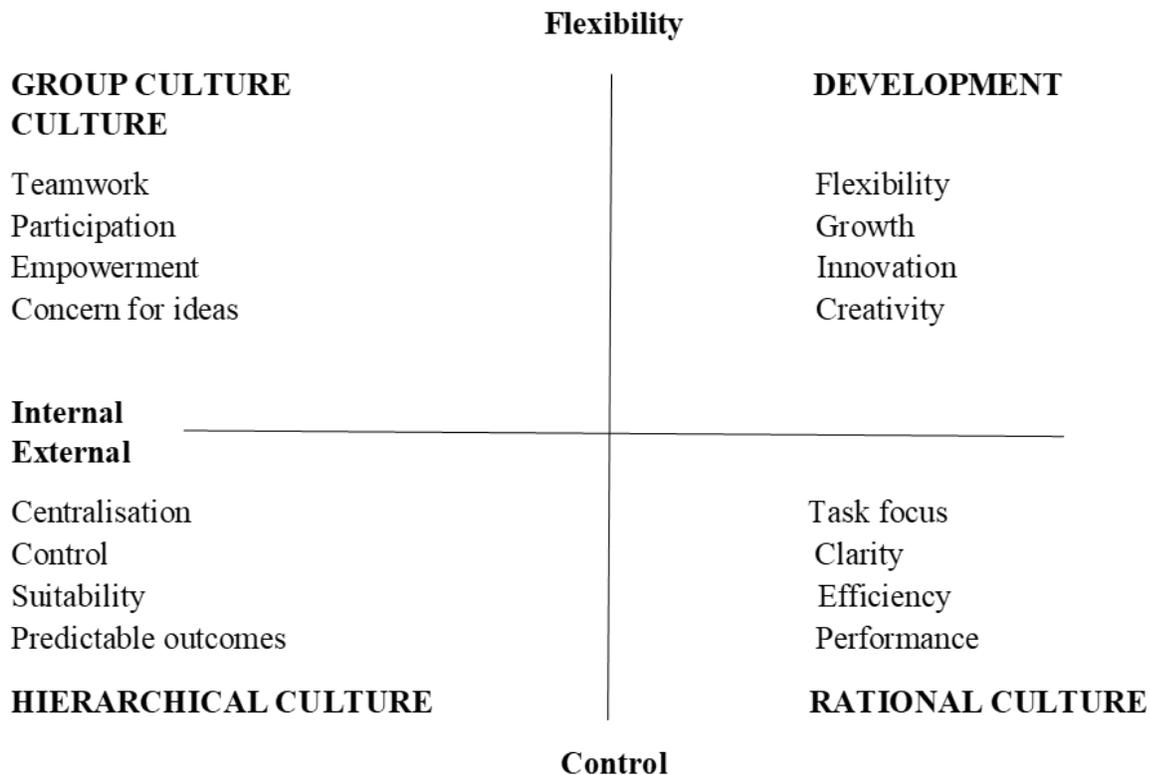
Culture is as a set of principles, morals, opinions, and norms for behavior shared by participants of a society (Wanderi, 2015). Organisational culture is the set of organisational practices that are seen as characteristic of an organisation (Wali & Boujelbene, 2011). These organisational practices provide values, norms, and principles that guide daily operations of an organisation. The four dimensions of OC are further described. Rational culture is oriented towards the external

environment but focuses on control and stability (Erkutlu, 2011). Hierarchical culture focuses on internal behaviour and is controlled through internal efficiency and adherence to the law (Erkutlu, 2011). According to the nature of the present study, only two dimensions of the four organisational cultures will be discussed. The first is group culture that emphasises flexibility and cohesion among employees of an organisation (Prajogo & Mcdermott, 2005). This group culture also supports the view that top management should promote employees' participation and empower them. The second dimension is the development culture which promotes flexibility and change based on the external environment. The organisation has to come up with a quality culture that integrates with other dimensions of culture for a successful TQM (Wali & Boujelbene, 2011). Organisational culture influences the implementation of TQM processes as it connects with quality practices and norms that employees are engaged in. An organisation needs to create an OC which employees understand and where they are encouraged to participate in quality management programs. Erkutlu (2011) states that OC affects the employees' beliefs about implementing TQM. Further, the writings show that culture affects the understanding and realisation of TQM in the whole nation (Kumar 2006; Valmohammadi & Roshanzamir, 2015). Previous studies argue that OC tends to have more control over the TQM implementation results (Maull et al., 2001; Al-Jalahma, 2012). Therefore, suitable policy for TQM implementation is required in order to integrate it into OC (Martins & Terblanche, 2003).

Although TQM needs profound change, an organisation cannot change a culture overnight. Moderately, culture changes through the result of doing the correct things for a period of time (Oakland, 2011). Moving towards the adopting a single culture does not mean that other cultural types must be uncontrolled (Cameron & Quinn, 2011). Nevertheless, there are several changes or adjustments in aligning strategies to cultural adjustments, such as neglecting some characteristics of the current culture (Cameron & Quinn, 2011).

### **2.9.1 Competing values framework for profiling organisational culture**

There are four various different types of cultures, namely, group culture, development culture, hierarchical culture and rational culture which form the competing values framework (CVF) for profiling an organisational culture. The following **Figure 2.3** shows the competing values framework of different types of cultures.



**Figure 2. 3 Organisational culture framework**

**Source:** Denison and Spreitzer (1991:1-21).

These measurements contain contradictory or competing assumptions. Every range states a core value that is opposed to the range end, i.e. flexibility against firmness and interior against exterior (Yu & Wu, 2009). These measurements, therefore, result in quadrants, that are also opposing, and compete through the diagonals (Hartnell & Kinicki, 2011). The upper left quadrant recognises values that emphasise an inner organic focus. The lower right quadrant identifies values that emphasise an outward control focus (Yu & Wu, 2009). The upper right quadrant identifies standards that emphasise an exterior organic focus, while the lower left quadrant identifies interior control standards. These rival standards in every quadrant provide the model name, the CVF (Hartnell & Kinicki, 2011). The grouping of the twofold dimensions results in four quadrants of ethnic dimension. The four quadrants of cultural dimension are a group, developmental, hierarchical and rational.

**Group culture** - Prajogo and McDermott, (2005) posit that the relationship between group cultures places importance on flexibility and interior orientation. The organisation with a group culture encourages human resources growth, input, cohesiveness, and promise of affiliation. The organisation highlights the enduring benefits of individual growth with great unity and self-esteem. Victory is an interior environment of cooperation, input and agreement (Cameron & Quinn, 2011)

**Developmental culture** - Developmental culture highlights flexibility with a further focus on the external environment (Iivari & Huisman, 2007). An organisation that evinces a development culture is characterised by lively entrepreneurship and innovative workstations. The compulsory authority that holds the organised organisation is a commitment to investigation and upgrading. It is important to be at the leading advantage of innovative knowledge, services, and products (Tsai, 2011). Willingness to transform and gather innovative challenges are important, as the organisation's long-term importance and the emphasis are on speedy development and obtaining new different resources. In this developmental culture, success means generating unique and unusual products and services (Prajogo & McDermott, 2005).

**Rational culture** - The rational culture is attentive to the external environment; nonetheless, it is control-oriented (Gregory, Harris, Armenakis & Shook, 2009). It highlights output and goal success, and the main motivating factor is competition. Such an organisation is a results-oriented workplace. In this type of culture, leaders are as punitive and demanding as they are strong driven creators (Gregory et al., 2009). The long-term intention is on reaching the success of extensive goals and ideas. Therefore, achievement can be well described in terms of market share and infiltration.

**Hierarchical culture** - The hierarchical culture is equally controlled and inner-oriented (Goodman, Zammuto & Gifford, 2001). This type of culture provides guidelines and standardisation to attain control and immovability. This type of organisation is characterised as an organised formalised working area. Processes and guidelines control what individuals arrange and organise. Hence, effective leaders are found to be worthy managers, organisers and effectiveness experts (Goodman et al., 2001). The success of this culture is defined by maintaining an even

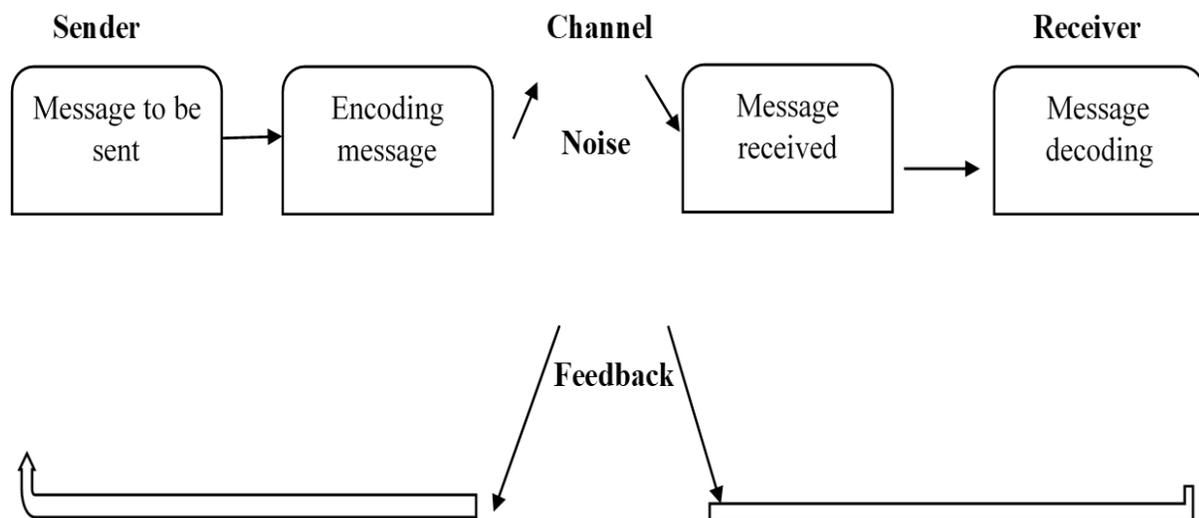
running organisation with long-term concerns about the organisation`s stability, certainty, and efficiency.

## 2.10 COMMUNICATION AND IMPLEMENTATION OF TQM

Communication is the exchange of interpretations and meanings to achieve shared understanding between parties involved (Robbins, 2007). The point is to have one`s feedback understood by the next person (Gorse & Emmitts, 2007). In construction sites, communication is different and inimitable as they use some terminology words to express and describe their meaning. Therefore, communication in construction sites must be well-tuned in order to be effective. To achieve effective communication, one must understand the fundamentals of communication.

### 2.10.1 The basic communication model

**Figure 2.4** shows the basic communication model and how it operates from the sender, through the channel to the receiver, and finally feedback to the sender.



**Figure 2. 4 The communication process model**

**Source:** Robbins (2007).

The basic communication model consists of four processes, namely, sender, channel, receiver and feedback (Godes, Mayzlin, Chen, Das, Dellarocas, Pfeiffer, & Verlegh, 2005). The communication

process begins from the sender, becoming an encoded message. The sender sends the message to the receiver, and then the message is encoded and received by the receiver.

The process of asking a question is called an investigation. An investigation leads to understanding of the information and theory of the systematic study of experience (Cronin, 2014). The first stage inquires the questions and provides disciplined, systematic answers to them. The second stage of inquiry is the observation. The receiver then looks for answers by observing the phenomenon under investigation (Littlejohn & Foss, 2010). The third stage of inquiry is whereby the answers are being created. In this section, feedback involves a process whereby the receiver attempts to define, describe, and explain judgments and interpretations about what was observed (Godes et al., 2005).

### **2.10.2 Internal communication**

Internal communication departments know that effective communication is of vital importance. Kalla (2005) identified four different parts of internal communication, namely, business, management, corporate and organisational. The terms can be summarised in one single term, internal communication. Welch and Jackson (2007) define internal communications as the transactions coordinated on daily functions between individuals and/or groups at various levels. Smidts, Pruyn and Riel (2001) understood internal communication as the applications which are considered by employees in communication with supervisors and colleagues. Welch and Jackson (2007) argue that internal communication means the message that occurs within an organisation, between and amongst employees. The process usually takes many forms, for example, official meetings, phone calls, emails, memorandums, internal wikis, and face-to-face casual conversations.

According to Kasongo and Moono (2010), communication is defined as the exchange of views, messages or information between people through speech, signals or writing. Related to the above, the success of an organisation depends on communication, such that when the process is not working properly, the entire organisation suffers. Each organisation should, therefore, put into place proper communication systems that facilitate the horizontal, vertical, upward and downward exchange of information. According to Sadikoglu & Zehir (2010), both internal and external communication is critical in the implementation of quality programs. It authorises employees to

improve the flow of communication within them and outside the organisation. This helps the organisation to avoid early mistakes which might arise during the TQM implementation process. Furthermore, it helps the organisation take steps towards an in-depth understanding of quality and its management. Therefore, top management must translate quality information into an understandable form (Murphey, 2009). In addition, all stakeholders will benefit from understanding the feedback channel and participating in a two-way communication process.

Effective knowledge management entails that workers obtain timely reliable and essential information to do their job effectively and efficiently in the organisation. Process management (PM) comprises preventive and active methods to ensure quality management (Sadikoglu & Zehir, 2010). Furthermore, PM also lessens variations in procedure and improves the production / service quality. The activities of PM are different from results through methodological and behavioral activities. To achieve processes successfully, quality must be monitored as errors in quality will increase the expenses and the required building material. Therefore, errors and mistakes are corrected on time. Processes can be improved through occasional monitoring (Kalla, 2005). Such processes prevent extra incurred costs and profit rises in the organisation.

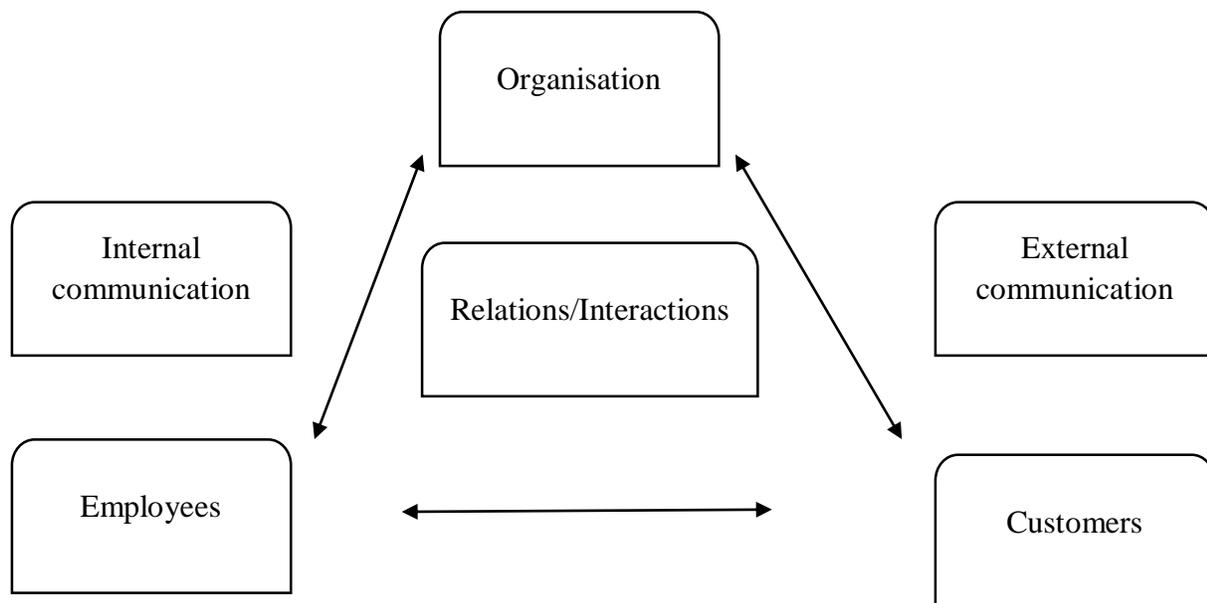
### **2.10.3 External communication**

External communication is a very significant business communication element. It is crucial for producing a service or brand image and identity (Tata & Prasad, 2015). Existing and potential consumers have perceptions of either a business service or brand based on the organisation's external service/brand linked to communication activities. External communication focuses on spectators outside the organisation, as clients, investors, and regulatory bodies (Chan, Chan & Ho, 2003). There are different types of external communication approaches, namely, press kits, fact sheets, newsletters, magazines, brochures, news releases, and annual reports (Tang, Duffield & Young, 2006). The activities of external communication significantly contribute to the organisation's remuneration. The company director identifies these activities. In addition, these activities are important for the benefit of the organisation's success (Abu Samah, Shaffril, Azril, Abu Hassan & D'Silva, 2011). Tang, Duffield and Young (2006) state that a good business habit drives excellent external communication as organisations begin to develop and value the habits of excellence. Hence, a corresponding desire and need for good communication also increases (Tang

et al., 2006). Organisations with good external communication activities tend to display the qualities and characteristics of visionary companies (Horrigan, 2010). Those who tend to innovate show consistent enhancements in market share, exceeding similar comparable organisations (Tata & Prasad, 2015).

#### 2.10.4 Relationship between the internal and external communication

According to the model illustrated below, internal and external communications are important for the business success of TQM implementation. Employees must be in good relationship with their customers for the reputability of the organisation. **Figure 2.5** below shows the internal and external communication relationship.



**Figure 2. 5 Corporate service communication flow**

**Source:** Horrigan (2010).

#### 2.11 INFORMATION TECHNOLOGY AND IMPLEMENTATION OF TQM

Technology supports the upgrading of jobs and cumulative job satisfaction. Information technology (IT) improves cross-training of the entire workforce in the organisation (Brah, Tee & Madhu-Rao, 2002). It also includes the administration of infrastructure, which eradicates paper-based task as well as allowing workers reprieve from routine actions (Brah et al., 2002). Employees who are highly skilled and have in-depth knowledge of the work discover improved job

gratification. Hence, IT enhances employment quality. Similarly, IT results in the internal incorporation of TQM. According to Brah and Lim (2006), heavy use of IT is observed among the most lucrative transportation service providers.

Brah et al. (2002) state the importance of technology as a main influence mediator for the future. They further classify IT into high-cost to innovative technology, medium-cost to average new technology and low-cost to incremental technology (Brah & Lim, 2006). High-cost revolutionary technology comprises automation – automated material handling equipment, and stowing and recovery equipment (Brah & Lim, 2006). Medium-cost technology contains information on management, hardware bar codes, visual scanners, local and regional networks, and hand-held data access devices (Brah et al., 2002). The medium-cost technology also contains software such as Electronic Data Interchange (EDI), which captures information on direct product lucrativeness, material resource planning, and distribution resource preparation. Ryssel, Ritter and Gemünden (2004) state that low-cost, incremental technology contains software that is useful to inventory control (in the process, raw materials, completed goods) and warehouse management (order selection, short-interval scheduling). A follow-up study reported that IT offers numerous advantages; for example, the chance to recover logistical efficiency, effectiveness, and flexibility in the upcoming logistics scheme (Ryssel et al., 2004).

Information technology is not only important to logistics schemes and mechanisms as it supports day-to-day acts in diverse ways (Antony, Leung, Knowles & Gosh, 2002). Usage of IT has brought great progress to service levels and increases the competitive position of an organisation (Antony et al., 2002). In general, supply chain organisations report that technology results in much better integration inside and outside the organisation. Hence, technology complements the TQM. It is usually expected that high-technology (high-tech) companies achieve improved results in terms of quality than in low technology (low-tech) organisations (Antony et al., 2002). High-tech organisations utilise a great level of technology in their processes. These kinds of organisations are in advanced countries (Ryssel et al., 2004). The low-tech organisations utilise a lower level of technology, and are found in developing countries (Antony et al., 2002). This information will lead us to find out the significance of IT in the construction organisations in Zimbabwe. Therefore, the use of IT improves TQM performance, which results in an advanced competitive advantage.

Information technology allows speedy and extra accurate data retrieval and transfers. In addition, it also improves message links and eases the implementation of progressive tools and schemes (Brah & Lim, 2006).

Total quality management strives toward continuous growth, client direction, employee empowerment and top management participation (Brah & Lim, 2006). TQM does suggest the implication of protecting the client`s interest, investors, competitors and even society at large (Brah & Lim, 2006). Similarly, technology has increased its main role in different businesses activities as it is also used for storing information within an organisation. Information technology helps the coordination of events within the membership of the supply chain and with the clients (Ryssel et al., 2004). Furthermore, IT assists in the improvement and trustworthiness of services and products. Therefore, technology appears to complement TQM. However, Brah and Lim (2006) state that technology presents different powerful external issues for the growth of TQM in an organisation. The key to significant improvement in service industries lies in the skill of achieving inside and outside integration. Through integration, organisations seek to implement internet facilities (IT) for the effectiveness of the business environment (Brah & Lim, 2006). Evidently, TQM is the process normally used in organisations which are designed to eliminate waste and extra incurred expenses. According to Ryssel et al. (2004), performance is improved through internal and external integration procedures. Furthermore, performance is seen as an improvement of the inner and outer integration (Brah & Lim 2006).

## **2.12 CHALLENGES TO IMPLEMENTATION OF TQM**

There are many potential challenges which affect the Zimbabwean construction industry. These challenges include: a lack of technical expertise; poor implementation policies; project design; execution; and a deprived economic environment (Kaura & Datta, 2012). These challenges arise from improper attitudes and perceptions of management and employees, inadequate resources and lack of training, as well as inappropriate environments for implementation (Ahuja & Khamba, 2008). There is evidence in the literature of unsatisfactory results in many companies that attempt to implement TQM due to problems and challenges in implementation (Kaura & Datta, 2012). Addressing one of the challenges, to achieve better results and empower employees, the company has to provide training and education to their workers. Specifically, in every company, employees

need to be motivated in different ways, for example by offering incentives, awards, promotion, and education or training (Ahuja & Khamba, 2008).

### **2.13 TOTAL QUALITY MANAGEMENT IMPLEMENTATION AND EMPIRICAL STUDIES**

A review conducted by Zakuna et al. (2012) showed that the success of an institution depends on its quality management strategy and how it identifies, classifies, analyses and reacts to changes in quality requirements. This study is consistent with the findings of Talib, Rahman, Siddiqui & Qureshi, (2011). Kasongo and Moono (2010) also support these studies, highlighting management strategy as one of the critical factors in implementing quality systems. Baidoun (2003) found that senior management commitment and participation were the most evident and key factors in successfully implementing TQM. Baidoun (2003), emphasised the importance of a clear company mission, and the development of quality policies and values. Murphey (2009), states that quality management philosophy makes it easy to implement quality programs.

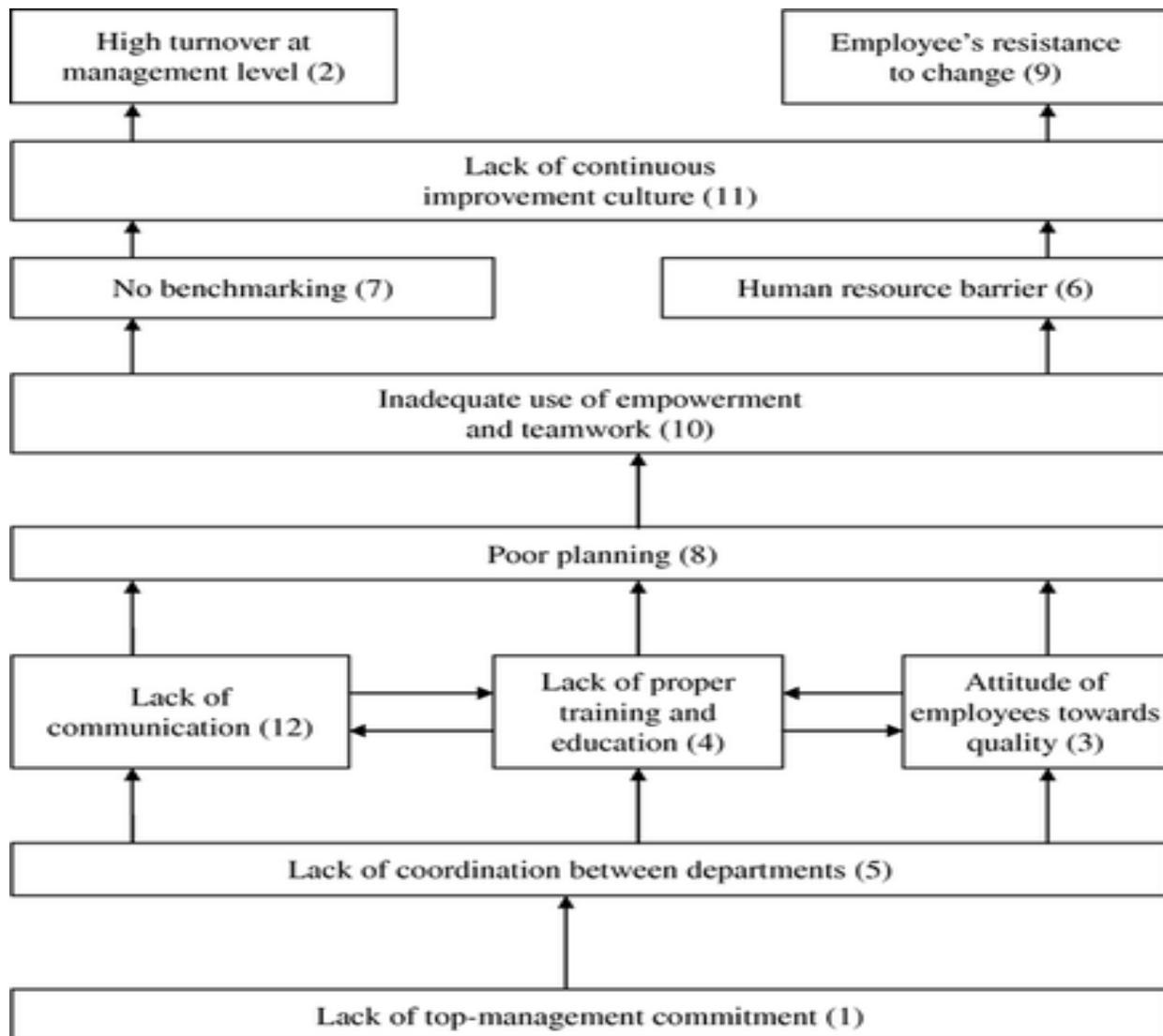
Jamali et al. (2010), in their study on TQM implementation, identified training as a means and uniquely critical factor in the fruitful execution of TQM. In addition, the implementation of TQM requires adequate relevant employee skills and knowledge of quality which can only be achieved through continuous training (Jamali et al., 2010). In addition, training employees empowers them to take part in continuous improvement initiatives that are essential in TQM implementation (Oluwatoyin & Oluseun, 2008). Therefore, workers at every stage need to accept quality education and training. The existence of quality education and training assist workers understand quality management initiatives and their roles in implementing TQM (Arshida & Agil, 2012).

Employee training and education, research shows, enables employees and better presents their roles in quality management. A study by Oluwatoyin & Oluseun (2008) revealed that team leaders' involvement, employee training and development, and employee awareness, among other factors, are critical in the implementation of quality initiatives. Workers feel involved in quality management initiatives when given timely training in quality programs. Therefore, training provides a positive approach and reduces employee resistance (Talib et al., 2011). Group culture helps in reducing employees' barriers, as well as information and customer related barriers that are

faced in the implementation of TQM (Aljalahma, 2012). Talib et al. (2011) showed that organisations with clear communication and quality awareness, supported by active top management, are likely to succeed in the implementation of ISO 9001:2000. Correspondingly, a study by Baidoun (2003) revealed that clear and consistent communication at all levels and occupations of the company on quality programs, quality mission, and quality objectives is the key to successful implementation of TQM. Therefore, the overall performance of TQM has been discovered in the study. From these discussions, it is evident that top management commitment, employee empowerment, and training, organisational culture and technology are critical factors in the implementation of TQM. Thus, there is a need for each company that is implementing TQM to consider these factors.

#### **2.14 CONSTRUCTION BASED MODEL ON TQM BARRIERS FOR SERVICE INDUSTRIES**

According to the model illustrated below, several barriers to TQM implementation are in internal business. These barriers are between employees and top management. There are several barriers to the implementation of TQM. Some of the barriers are discussed briefly below. **Figure 2.6** illustrates the obstacles to TQM implementation in the service industry.



**Figure 2. 6 Barriers for service industries on the implementation of TQM**

**Source:** Talib, Rahman, and Qureshi, (2011:563-587).

### 2.14.1 Lack of top management commitment

The main potential barrier to implementation of TQM is the top management commitment, tolerance towards mistakes and the ability to learn from them. DeLong and Fahey (2000) examined the capturing, appraising and learning from experiences of previous errors. National culture can be a restrictive factor in learning from activities (Michailova & Husted, 2003). For example, uncountable Russians do not discuss problems and faults outside the workplace. Another example is that some Asian and Western cultures trust their employees for the growth of organisational learning (Michailova & Husted, 2003). In addition, certain employees appear to trust each other

and exchange ideas in the workplace. Previous research studies on restrictive national culture (e.g. Bell DeTienne, Dyer, Hoopes and Harris 2004) argued that this ignorance is a major obstacle shared by many companies in the world.

Top management is accountable for every action of the company. Top management is helpful in the growth of OC, technical infrastructure and decision-making practices (Riege, 2005). Effective knowledge formation and sharing need long-term commitment and care from top management (Singh & Kant, 2008). Lack of top management commitment is the most serious obstacle to effective implementation of TQM (Choy & Suk, 2005). The top management is responsible for identifying organisational strengths and weaknesses (Goll & Johnson, 2007). Furthermore, analysing opportunities and threats in the external environment is the top management's duty. Through this process, top management will theorise a vision on the kinds of knowledge and managing system to implement (Riege, 2005).

#### **2.14.2 Lack of employee empowerment**

The idea of employee empowerment has remained a focus of research and practice for some time. TQM has been described in relation to the empowerment of employees and teams (Kuipers & Stoker, 2009). There is still a discussion concerning the importance of empowerment theory. However, Holt et al. (2000) define empowerment as giving employees the opportunity to make decisions when they are confronted by problems instead of relying on their superiors or managers. Lack of employee empowerment will lead to the unsuccessful implementation of TQM. The concept of empowerment entails workers being provided with a high degree of flexibility and independence to make conclusions concerning labor. The dominant principle is that employees answer more innovatively when given duties, and when they are encouraged to partake in their work (Bordin, Bartram & Casimir, 2006). In addition, workers facilitate constructive empowerment and positive characteristics in a company in which they have been acknowledged as essential. Notably, workers are required to understand the vision and goals of top management (Stander & Rothmann, 2010). This gives a company reason to place a strong emphasis on the necessity for frankness and teamwork (Stander & Rothmann, 2010). Moreover, it has been argued that anybody trying to plan effective self-managing work teams is required having a strong focus on worker participation (Arnold, Barling, & Kelloway, 2001). Attaining empowered work teams can be challenging. It is, therefore, debated whether employee teams add value to organisational

achievement (Judith, 2012). Employee empowerment is the method of permitting employees to make individual decisions for the entire company (Arnold et al., 2001).

The advantage of empowerment is that the employee population becomes closely involved in the success of the company (Kuipers & Stoker, 2009). However, there are various challenges linked to employee empowerment. It has been discovered that managers are taken out of the daily decision-making process of empowered employees (Judith, 2012). Therefore, it becomes essential to increase the extent of training for workers to help reinforce each individual's skill set (Judith, 2012). However, the absence of training in an empowered environment generates situations in which employees are working on awareness rather than following company strategy. Challenges in some empowered environments arise from the managers (Arnold et al., 2001). In other words, managers still maintain an employee-manager business model that can affect the employee empowerment model's implementation. Much is achieved when managers work closely with their employees when implementing TQM. This improves confidence in employees and is essential to allow the empowerment model to take place.

### **2.14.3 Lack of organisational culture**

Organisational culture (OC) refers to the main philosophies, values, morals and communal customs that provide the framework for individual's actions and behaviors in the company (Lemken, Kahler & Rittenbruch, 2000). If there is a scarcity of OC in a company, TQM will be ineffective (Chuang, 2004). Organisational culture reflects several aspects of a company, typically alliance and trust (Lemken et al., 2000). Thus, trust enables more hands-on and open knowledge sharing (Alawi & Marzooqi, 2007). A minimal level of teamwork delays the handover of information amongst people and teams in the company. Generally, it is important that managers build trust and confidence amongst their employees. Trust can be built through allowing employees to participate in the formation of a respectable and suitable OC of the company and provides the environment for a successful implementation of TQM.

### **2.14.4 Lack of communication**

Consistent communication is essential for every stage of an effective transformation process (Al-Khalifa & Aspinwall, 2000). Salegna and Fazel (2000) argued that inter-organisational

communication has a significant role in the implementation of TQM. Inter-organisational communication is preserved by the use of handbooks, technical citations, media, a business portal to publish the TQM thoughts, and an effective response system (Maleyeff, 2006). Such features enable successful communication.

Maleyeff (2006) reported that an important challenge to quality expansion is the absence of communication throughout a company. Haupt and Whiteman (2004) argued that lack of communication in the organisation affect productivity. Therefore, training and educating employees is an actual operative means by which tools and policy for transformation are communicated. A lack of respectable communication and information systems disturbs the operation of the business. Hafeez, Malak and Abdelmeguid (2006) argue that the coordination and cooperation of the external and internal are essential. Hafeez et al. (2006), further state that unproductive internal and external communication are found in companies with many unresolved issues that affect the success of a business. Therefore, people do not regularly communicate with other departments. Circulating among clusters of related professions is easier than to move transversely through diverse departments inside a company (Tsoukas & Mylonopoulos, 2004). However, TQM advises people to communicate with other departments to ensure similar direction and aims.

#### **2.14.5 Lack of information technology**

Technology is considered as the main driver in modern organization today (Sign, Narain & Kant, 2007). It is now widely recognised that for companies to survive they need to transform the business activities by adopting technology. Technology improves employee performance and productivity (Chua, 2004). However, organisations and employees might hesitate to adopt technology and use it to improve existing operational systems. The inability to accept change by employees is a major problem faced by global organisations. Organisations must take bold step to make sure that employees are well trained to accept new systems introduced through technology in the organisation (Chua, 2004). While most individuals are not hesitant about the use of technology, it has been noted that the knowledge or unfamiliarity of IS/IT systems can be a possible sharing obstacle. Individuals must receive enough training on how to use the technology system correctly (Sign et al., 2007). This can cause the misuse of technology. Reluctance to accept

technology may derail efforts to respond to market changes (Chua, 2004). However, it is important to include users in designing or selecting new technology and train workers on adjustments made to the current systems rapidly.

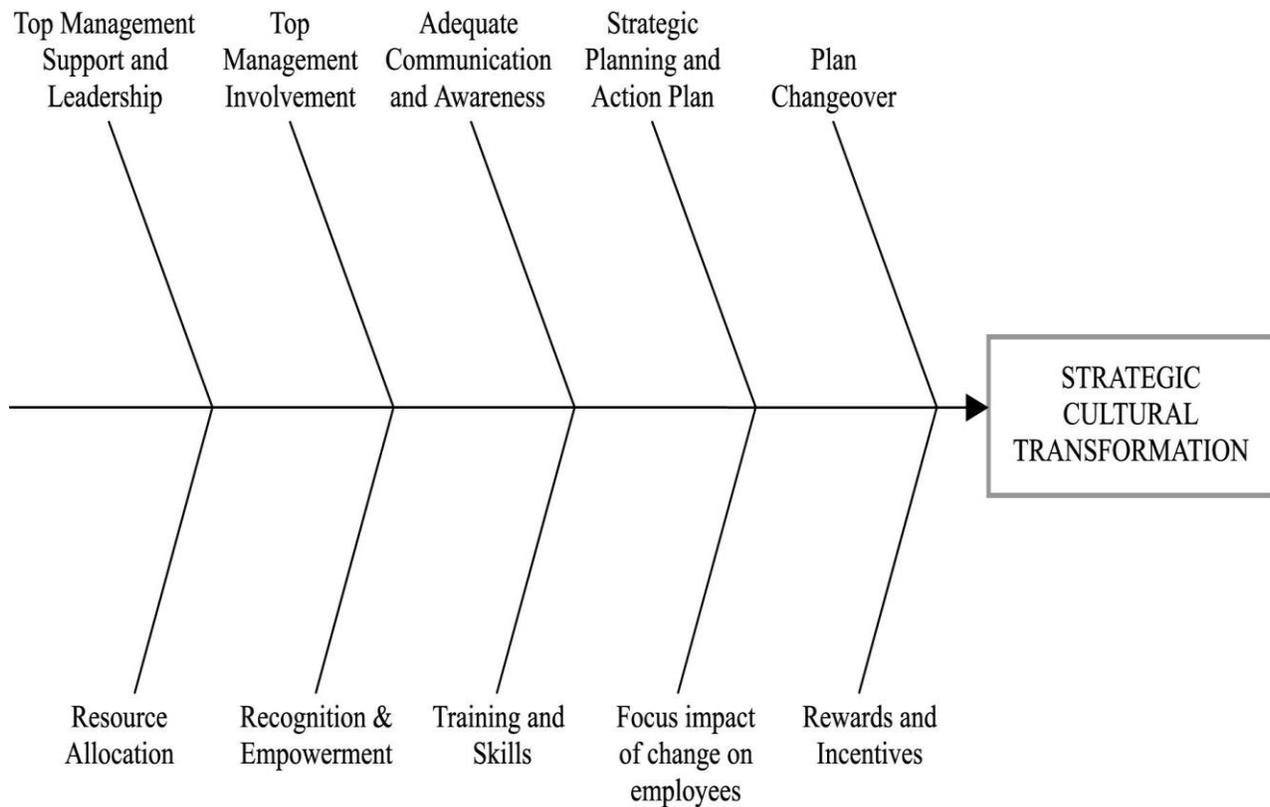
The extensive diversity of know-how, for example, corporate intelligence, information base, teamwork, portals, client managing schemes, and data excavating are the drivers of TQM success (Sign et al., 2007). Knowledge supports the selection of a suitable technology to improve the employee performance and productivity of the company (Sign et al., 2007). Knowledge bridges the gap between TQM and strategic problem that emerges from cultural priorities. However, deficiency of technological infrastructure is the only difficulty in the implementation of TQM. Importantly IT offers a strong opportunity for the successful implementation of TQM policy. It also improves and improves analytical assessment of data on the performance of the organisation (Singh et al., 2007). IT enables the gathering, describing, storing, indexing and cross collaboration of performance data. IT is capable of overcoming obstacles of time and space and is efficient and effective if properly installed and correctly used.

## **2.15. STRATEGIES USED TO OVERCOME SOME OF THE CHALLENGES ON IMPLEMENTATION OF TQM**

Quality investment, calls for emerging strategic planning. TQM is widely recognised as an important business to contemporary organisations in the construction sectors across the world. However, TQM is exposed to various challenges which call for management to take bold strategies to overcome those challenges (Stritikus & Nguyen, 2007). These strategies are centered on the adaptation of strategic policies which embrace quality (Wilkinson & Dale, 2002).

### **2.15.1 Typical strategic cultural transformation**

Strategic cultural transformation is key solution to successful implementation of TQM policy. Strategic cultural transformation framework for successful implementation of TQM is shown in the diagram, **Figure 2.7**, below. The framework illustrates some of the strategies used to overcome some of the challenges encountered when implementing TQM policy in the organisation.



**Figure 2. 7 Strategic cultural transformation for the implementation of TQM**

**Source:** Stritikus and Nguyen (2007:853-895).

For an effective TQM implementation, companies need to integrate old systems in to the new chosen TQM policy. The choice is centered on aligning TQM quality direction into the old operating systems (Kaynak, 2003). In addition, the company is required to improve standard work practices and safe operational processes. However, the new quality position is supposed to motivate workers. Incorporating employees into the TQM quality policy should be done with the recognition that the greatest failures of TQM programs is the when employees failed to recognise and accept it. (Kaynak, 2003). In addition, companies need to implement maintenance initiatives (Stritikus & Nguyen, 2007). This is done in order to improve the company`s quality performance and productivity. Lastly, companies need to develop and implement TQM strategies which are pinned on improving quality through the encouragement of a proactive action by employees towards eradicating defects in operational processes in the organisation (Kaynak, 2003). Therefore, adequate education and training of workers at every level should be treated as a key strategic initiative for an effective TQM implementation.

Barriers to implementation of TQM can be challenged using different strategies. The use of a team work on problem-solving is one important element of TQM that is used to improve quality products and services. The spin-off of team work approach is allowing people to work collectively and assist each other in identifying defects in operation processes of the organisation (Wilkinson & Dale, 2002). Team work approach is the one of the effective and efficient way of tackling process management and quality improvement. Oakland (2011) posits that a company development is built through team approach. Teamwork for quality improvement is driven by policy which is built and must be implemented considerably and effectively. For the opportunity to transform organisational culture to a more quality oriented culture, teamwork has to be implemented correctly (Kaynak, 2003). Overall, teamwork is important for effective implementation of TQM in a company (Oakland, 2011; Kaynak, 2003). Teamwork affirms the importance of employee engagements and defines their commitment to quality in the organisation. Quality on group decisions is viewed as the one of the driver of successful implementation of TQM. Quality management tools that address issues such as deviations, nonconformance, client complaints, and workers training are the important elements of quality products and services to the organisation. As a result of implementing QMS tools, companies are able to deliver effective and efficient products and services at a low cost. A quality audit can examine the quality scheme, products, procedures, and facilities. The purpose of a quality audit is to appraise what is needed for improvement or corrective action (Wilkinson & Dale, 2002). Quality management programs should be reviewed and their adequacy for the company should be checked regularly (Kaynak, 2003). Audits and reviews can also be done on progress. Thus, improvements and lessons learned can be incorporated into the plan for future years.

## **2.16 FACTORS IMPELLING EFFECTIVE AND CONTINUOUS IMPROVEMENT**

Due to continually changing consumer tastes and pressures from competitors, continuous growth is important for a company's sustainability (Patil, Ullagaddi & Jugati, 2012). Performance is improved through better responsiveness; shorter cycle times for innovative products or services (Basu & Bhola, 2015). Performance is also improved through unique marketing, engineering or production policies, and better or advanced products (Basu & Bhola, 2015). Incremental and innovative developments improve productivity by lessening costs and/or improving performance

(Patil et al., 2012). The aim of continuous growth is common to various managerial concepts (Patil et al., 2012). Getting things done in a correct way is called a process (Basu & Bhola, 2015). The process comprises the tasks, procedures, and plans which are required to meet an internal or external consumer need (Patil et al., 2012). According to TQM thinking, if the process is accurate, it means the complete outcome of a service or product is perfect (Basu & Bhola, 2015).

The work environment and culture of a company should drive continuous improvement for employees. Patil et al. (2012) posit that strong management participation, empowerment and client focus are all crucial to a company (Jackson, 2001). The attitude of an individual can influence the implementation of TQM (Basu & Bhola, 2015). However, individual dominants in a team may derail teamwork and compromise quality aspirations of the team. According to Patil et al. (2012), the commitment of individuals to quality brings continuous improvement. Therefore, a company that introduces quality mechanisms means that is pursuing and investing into advance employee commitment and cooperation into the organization (Patil et al. 2012). Consequently, a “no-blame” culture discourages employees from covering up difficult areas (Codman, Deming & Donabedian, 2014). This becomes a problem to TQM policy as it hinders quality agenda of the organisation (Bernhardt, 2015). High levels of trust and confidence between superiors and subordinates are expected. Therefore, cooperation and teamwork is required at all levels. Effective implementation of every strategy increases if the business’ participants are devoted to a shared dream (Basu & Bhola, 2015). From this, it is understood that employee growth is essential to achieving a quality-focused organisation. Thus, service staff affiliates are required to be soundly trained and be proactive to quality demands of the organisation (Patil et al., 2012). Continuous training at all levels of employees in the company is required for continuous improvement on quality and empowerment of workers (Basu & Bhola, 2015). Therefore, employees are obliged to be prepared and equipped to manage change and quality demands (Bernhardt, 2015). In addition, excellence is required to motivate and train employees to work towards excellence (Codman et al. 2014), to achieve implementation of TQM effectively.

## **2.17 GAPS IN THE LITERATURE**

Lack of TQM implementation can be attributed commitment of top management to TQM policy (Beer, Voelpel, Leibold, & Tekie, 2005). However, this shows that top management have powers

to implement TQM in different departments in the company. The gap differs from one department to another due to the quality of management respectively. By saying quality, it means the ability of senior team to be able to improve assurance to the new TQM direction (Beer et al. 2005). This will also mean that senior teams have to make decisions that are reliable (Oakland, 2011). However, senior management has to establish cross-functional mechanisms, skills development, and team culture aimed at developing junior management teams that will be custodians of the implementation of TQM policy (Beer et al. 2005). The senior management has to create a climate of open discussion with other managers for the progress of TQM implementation (Beer et al., 2005). The TQM transformations will continue only if senior management requires and eventually establishes a truthful organisation-wide conversation. The conversation must rely on original data on quality management from each department in the organisation (Oakland, 2011). In addition, the TQM transformation will direct changes in quality management or the replacement of managers.

## **2.18 TQM IN ZIMBABWE**

Remarkable developments in the integration of new technologies in the constructions sector have widely recognised in Zimbabwe. A growing and appreciated development in construction management research is in soft management aspects (Harris & McCaffer, 2013). Here, individuals and their views are included in the construction projects. Construction projects are established on collaboration among contracting parties to achieve project objectives. Therefore, it is essential for launching communication and teamwork between team members and the top managers is essential (Suchan & Hayzak, 2001). However, great focus is placed in management research on new technologies whilst the social and human factors through which these studies are executed in an organisation are ignored (Harris & McCaffer, 2013). A growing development in construction management research is seen in soft management aspects, especially in developing countries. It is found to be very difficult to achieve the project goals in developing countries by a certain targeted time. This is because of poor workmanship, unfavorable political environments – for example economic situations, high inflation rates and poor working conditions (Suchan & Hayzak, 2001). With construction projects that generally aim to achieve collective goals through the teamwork of the project participants, it becomes critical that all teams establish productive communication (Suchan & Hayzak, 2001). Therefore, it is significant to study how these teams are built, how they communicate during the implementation process, and how team members can affect the project

outcomes (Suchan & Hayzak, 2001). These team members are expected to work together collaboratively where the challenges of managing multiple disciplines and organisations involved in construction industries have proven problematic (Harris & McCaffer, 2013). The lack of teamwork in the construction industry amongst members is still one of the major obstacles to successful delivery of materials that enable completion of projects on schedule (Suchan & Hayzak, 2001). The Zimbabwean economy has, since independence in 1980, experienced a sequence of transitions originating from both internal and external business political environments (Saungweme & Mufandaedza, 2013). The severe political and economic errors made by the government during its first decade in power led to what is referred to as a “severe political and economic muddle” (Bratton & Masunungure, 2006:21-45). The political crisis over the years has caused major problems to the construction firms in Zimbabwe (Harris & McCaffer, 2013).

In a developing country like Zimbabwe, the main challenges faced in construction organisations are caused by the political and economic issues. Zimbabwe faces the on-going continuation of hostile powers in the government for the benefit of their own families. These political and economic issues affect the GDP of the country and have cause continually high inflation rates (Pollin & Zhu, 2006). However, the construction industry sector was spared by the continuous economic meltdown of the country (Wong & Fung, 2009). Foreign direct investment into the construction has been severely affected over the years as investors seriously weigh their options of investing in Zimbabwe. The economic challenges have continued to have ripple effects on exiting firms in the country. The majority of constructions companies have being closing down citing high inflations rate that pushes operating costs beyond manageable levels (Pollin & Zhu, 2006). The economic challenges derail completion of projects over the years. The delay in delivery of materials affects the completion date of projects and their targeted time of completion. This results in poor progress and performance (Wong & Fung, 2009). The hardships faced by construction companies’ call for top management to pursue other strategic management approaches. TQM emerged as an important strategic option that could be used to add quality to project by construction companies in Zimbabwe. However, the challenges in implementing TQM are evident across the sector. Importantly, a number of criticisms have focused on the construction industry for its hasty workmanship. It is not only the finished product that is subject to criticism (Wong & Fung, 2009). Among others, it includes people, processes and materials (Sirvanci, 2004).

These are all under great pressure so that there is better quality in construction. The construction industry as a whole aims to offer and sustain quality services (Wong & Fung, 2009). However, the industry faces extensive delays, excessive costs, and questionable workmanship quality due to poor implementation of TQM. Therefore, organisations should implement effective TQM for the benefit of economic growth (Sirvanci, 2004). The aim of this research is to show a complete review of research literature on how organisations implement TQM in the construction industry, and to detect gaps in knowledge for future research to consider.

## **2.19 CHAPTER SUMMARY**

This chapter highlights literature on TQM in relation to the objectives of the study. The chapter described a brief historical background of TQM theories adopted by business worldwide and discussed factors that affect the implementation of TQM. It focused on five factors, including top management, employee empowerment, organisational culture, and communication and technology. These different approaches were outlined and described in detail, followed by the challenges and benefits that are encountered through TQM application. Strategies to overcome some of the internal and external challenges for businesses were discussed. The framework and the view of TQM were used and described in-depth as a strategic tool, before narrowing the discussion down from a worldwide perspective to the viewpoint of a single economy, which, for this study, is a construction company located in Zimbabwe. The chapter also gave a brief overview of TQM in the construction sector in Zimbabwe. The following chapter discusses the research methodology used for the study.

## CHAPTER 3

### RESEARCH METHODOLOGY

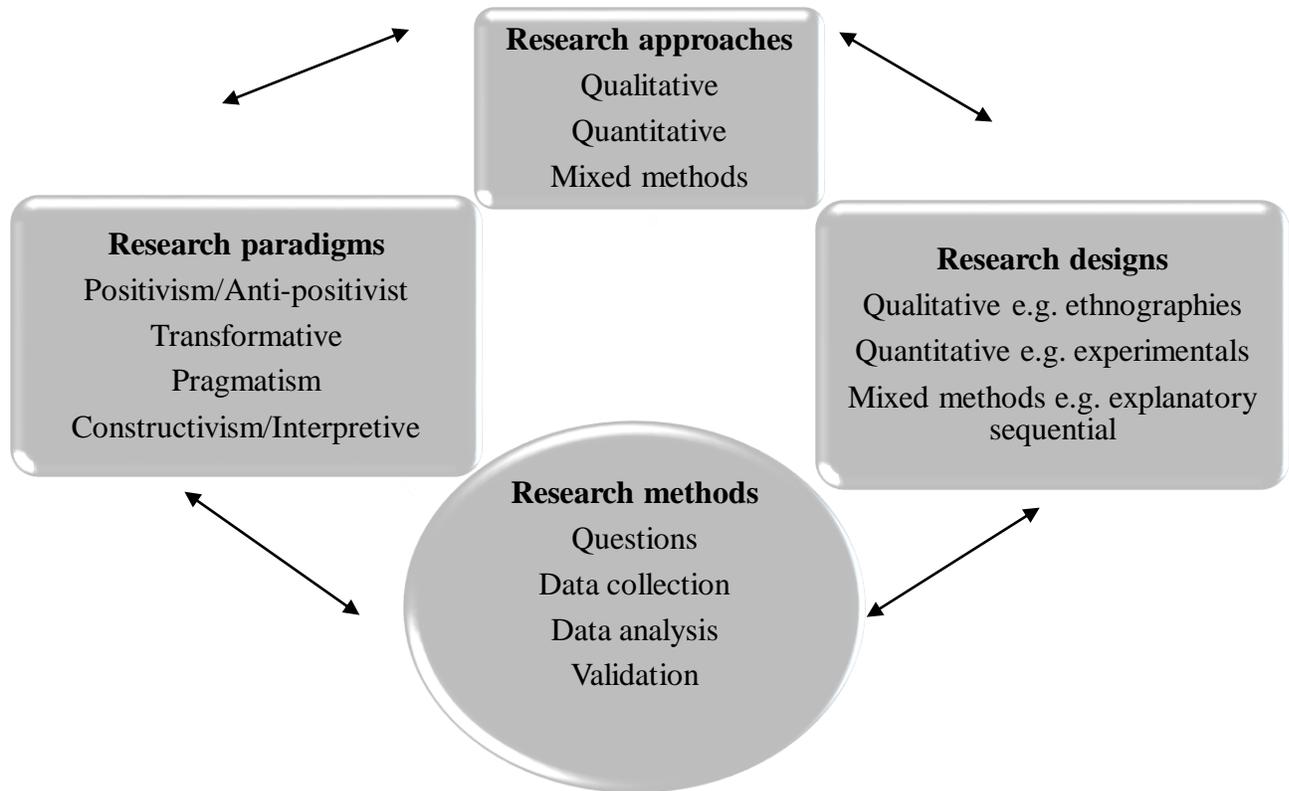
The previous chapter discussed the literature review on TQM. This current chapter will be discussing the research methodology that was included in the study.

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#### 3.1 INTRODUCTION

The previous chapter reviewed the literature on TQM. This chapter outlines methodology that was embraced in the study. Research methodology involves the universal rules and measures upon which the research agenda is founded and against which the data collected is interpreted and findings are evaluated (Ahadzie, 2007). This chapter presents literature on research methods that relate to the study. The chapter begins by discussing the research paradigms, research design, target population, and sample size. This is followed by a description of how the data for the study was collected and analysed using NVivo software. The chapter then explains the reliability and validity of the research followed by pilot testing and ethical consideration

The summary of the main elements presented in this chapter are shown in the form of a framework. Those elements include research approaches, research paradigms, research designs and research methods. **Figure 3.1** shows the framework for research and how the key elements and research methods are related.



**Figure 3. 1 Connection of research paradigms, research approaches, research designs and research methods**

**Source:** Creswell (2013:193)

### 3.2 RESEARCH PARADIGMS

Jonker and Pennink (2010), posit that paradigm is a set of essential expectations and principles as to how the world is observed. This description helps to outline the philosophy that directs the researcher`s behavior. A paradigm is a set of assumptions of how things work and it is “a shared understanding of reality” (Morrow, 2005:250). However, authors (e.g. Neuman 2011; Creswell 2009; Saunders, Lewis and Thornhill, 2009; Berry and Otley, 2004) emphasise that it is essential to begin by asking questions about the research paradigm to be used in research. It substantially impacts on how an individual undertakes a social study, from the way of framing to understanding societal phenomena (Rossman & Rallis, 2003). There are four research paradigms, namely positivism, transformative, constructivism and pragmatism (Denscombe, 2008). The four research paradigms are summarised in **Table 3.1**.

**Table 3. 1 The four major research paradigms or worldviews**

<b>Postpositivism</b>	<b>Constructivism</b>
√ Determination	√ Understanding
√ Empirical observations and measurement	√ Social and historical construction
√ Reductionism	√ Theory generation
√ Theory verification	√ Multiple participant meanings
<b>Transformative</b>	<b>Pragmatism</b>
√ Power and justice orientation	√ Problem-centered
√ Political	√ Consequences of actions
√ Collaborative	√ Pluralistic
√ Change-orientation	√ Real-world practice orientation

**Source:** Creswell (2013:190)

### **3.2.1 Positivism/Anti-positivist**

According to Morgan (2007), positivist philosophy is used to improve valid and reliable methods of collecting human facts. These facts can be statistically analysed in order to produce details of how the social world functions (Antwi, & Hamza, (2015). The positivist researcher is expected to use a highly organised methodology in order to ease replication (Morgan, 2007). Positivism is defined as a structured method which allows the researcher to reproduce something that leads to statistical explanations in quantitative analysis (Morgan, 2007). The basic theory in positivistic research is that the researcher and the subject are separate from one another. Hence, the positivistic researcher does not have any effect on the subject (Mackenzie & Knipe, 2006). Positivists trust that many academics observe similar issues that produce the same outcome by using arithmetical tests wisely (Antwi & Hamza, 2015). The positivist’s main belief is the generalisation of results across different backgrounds, called naïve realism.

### **3.2.2 Transformative**

The transformative model holds strong views during the study process and develops individual thoughts on phenomena. Antwi & Hamza (2015) posit that this research procedure is considered to be an advanced way of gaining knowledge. It involves interpreting and constructing inside interpretivism, critical thinking and reflecting within criticism (Joseph, Graber, Chia, Munroe,

Donne, Thomas & Li, 2013). It is important for educators to embrace this paradigm in order to allow transformative learning. The transformative paradigm focuses on eliminating social imbalance to previous disadvantages people in society (Taylor, 2013). In transformative mixed method research, a researcher can create quantitative and qualitative approach variations to determine the main issues within the study.

### **3.2.3 Pragmatism**

Pragmatism theorists believe that research result should be observable, objective or subjective the issue under investigation (Sekaran & Bougie, 2013; Teddlie & Tashakkori, 2011). Pragmatism relies on the relationship between theory and practice in eliminating conflict in research study. It advocates the use of multiple methods to issues being reviewed (Teddlie & Tashakkori, 2011). The pragmatist researchers prefer to work with qualitative and quantitative data (Morgan, 2007). Pragmatism researchers use mixed methods research designs where various methods are used in a single study. However, it also calls for researchers not to rely on method but on the problem being investigated and utilize appropriate methods to the identified problem (Sekaran & Bougie, 2013; Teddlie & Tashakkori, 2011). Pragmatism believes that there is a reality to issues investigated through the use of multi methods (Morgan, 2007). Hence, the combination of ontology, epistemology, and axiology is suitable to approach and to investigate a social phenomenon (Teddlie & Tashakkori, 2011). This is because it enables them to understand the social reality better. The importance of using this kind of paradigm is that researchers use multiple methods to investigate the identified problem. This approach affords researchers the opportunity to get reliable results to the problem.

### **3.2.4 Constructivism/Interpretivism**

Interpretivists believe that there is objective reality. Interpretivist believes positively that the world is centrally constructed and is of great significance to people (Creswell 2013; Sekaran & Bougie, 2013). Interpretivist researchers do not study the truth but depend on reasoning to solve problems. They rely on individuals' own different backgrounds, experiences, and assumptions, participate in understanding reality to the problem (Creswell, 2013). Interpretivist seeks to understand rules that people use to solve problems. Constructivists rely on qualitative methods to investigate reality (Creswell, 2013). However, human capabilities are subjective and can be transformed over time

(Wahyuni, 2012). By understanding the social world from the perspective of capabilities and individuals means that interpretivist researchers enjoy interacting with participants. Furthermore, they choose to work with qualitative data which provides rich images of social concepts (Wahyuni, 2012). Therefore, interpretivism rejects objectivism and only single truth, the perspective of post-positivism. Interpretivist researchers choose research that supports the study of actual meanings of social phenomena from its study participants, and views it as a respectable form of social knowledge. At this point, the skills and standards of all researchers extensively impact the collection of data and its examination (Creswell, 2012). The researcher used constructivism/interpretivism research paradigm because it relies on human experiences, beliefs, and individual background answer research questions for this study.

### **3.3 RESEARCH DESIGN**

Research design refers to the researcher`s understanding and addresses the development of understanding (Creswell, 2012). Creswell and Poth (2017) posit that research design is a lane that monitors the investigator in the process of collecting, analysing and interpreting explanations. Furthermore, other researcher`s state that research design is logical evidence that allows the researcher to draw inferences regarding causal relations between the variables being investigated (Verschuren, Doorewaard & Mellion, 2010).

Several research strategies can be used for various types of studies. These strategies comprise of seven strategies, namely experiment, survey, case study, action research, theory, ethnography, and archival research strategies (Creswell & Poth, 2017). Each of these strategies can be used for exploratory, descriptive and explanatory investigation (Creswell & Poth, 2017). This study adopted a case study research design.

#### **3.3.1 Case studies**

Case study analyses specific issues within the boundaries of a specific environment, situation or organisation (Houghton, Casey, Shaw & Murphy, 2013). Houghton et al. (2013) define a case study as an investigation that examines a contemporary phenomenon within its real-life background. Baxter and Jack (2008) posit that if the method is properly applied, it develops a valued system for the research. Case study design is mainly considered when: (a) the aim of the

study is to answer “*how*” and “*why*” questions; (b) you cannot manipulate the personality of persons involved in the research; (c) you need to cover contextual circumstances because you believe that they are applicable to the phenomenon under study; or (d) the limits are not strong between the phenomenon and the context (Runeson & Höst, 2009).

### **3.3.2 Different types of case studies**

There are seven different kinds of case studies, namely, descriptive, explanatory, multiple-case, intrinsic, instrumental, collective case studies and exploratory (Houghton, Casey, Shaw & Murphy, 2013). Explanatory case studies are used when the researcher seeks to give an explanation about something that has happened (Hollebeek, 2013). Exploratory case studies are used for the process of finding information about the physical situations that affects someone (Yin, 2003). The researcher chose the exploratory case study. By using exploratory research, the researcher gained knowledge of how the managers experienced the implementation of TQM. The researcher also understood why the implementation of TQM has been implemented at a certain time. Furthermore, exploratory research helps the researcher to find out and analyse the sequence of interpersonal events after a certain date or time has passed (Hollebeek, 2013).

### **3.3.3 Reporting a case study**

Researchers agree that case studies are complex and may be difficult to report. Houghton et al. (2013) posit that it is hard to report the findings in a compact way. Nevertheless, it is the researcher’s responsibility to change a complex phenomenon into a form that is comprehended by the reader. The objective of the report is to define the study in a general way allowing the reader to feel as if they had been an active participant in the research. This may regulate whether the study findings can be applied to their personal condition (Houghton et al., 2013). It is important for the researcher to explain the context where the phenomenon takes place. Runeson, and Höst (2009) recommended telling the reader a story, offering a sequential report, or by addressing every proposition. Addressing the intentions guarantees that the report is relevant and deals with the research inquiry. A problem that arises in the report writing is that various beginner researchers are confused by the plethora of fascinating data that is unnecessary or not relevant to the research question. It warrants researchers to avoid these problems in research situations. In order to completely comprehend the findings, the researcher constantly consult reviewed literature for the

study. This is done in order to cross check empirical data and reviewed literature. Houghton et al. (2013) mention six methods for reporting a case study. These comprise linear, comparative, chronological, theory building, suspense, and sequenced reporting.

### **3.4 RESEARCH METHODS**

#### **3.4.1 Quantitative research**

Quantitative research is the collecting of numerical data and generalising it across groups of people (Mertens, 2014). It can be supported by pre-existing statistical data where computational techniques could be used (Harris, 2009). Most quantitative research approaches tend to emphasise that there is a common reality on which people agree regardless of their theoretical differences. From a phenomenological perspective, realities do exist and multiple interpretations are available from different individuals that are all equally valid (Harris, 2009). A quantitative approach is mainly used when one begins with research philosophy or research assumption and tests for authorisation or disconfirmation of that assumption.

#### **3.4.2 Qualitative research**

Qualitative research is a multi-method which involves an explanatory, realistic method of exploring the research problem (Ritchie, Lewis, Nicholls & Ormiston, 2013). This means that researchers of qualitative studies make sense of or interpret phenomena in terms of the meaning brought to them. The qualitative investigation includes the use of a diversity of empirical materials, including individual know-how, life stories, interviews, history, visual texts and observation. These examples describe routines, challenges and meaning in people's lives (Creswell, 2012). The qualitative methodology achieves deep and detailed meaning through the use of quotes. It also provides detailed images of people's activities and behavior. In addition, qualitative research delivers a full range of interpersonal interactions and part of organisational procedures and human experience (Patton, 2005). The researcher used the qualitative research method as this type of research achieves a thoughtful of essential reasons, views and incentives (Patton, 2005).

### **3.5 TARGET POPULATION**

It is critical to understand the proposed population units of analysis and the geographical location of the research (Creswell 2012). The population of the study is a group or objects about which we

draw conclusions and also specific cases that the researcher needs to study (Zhao, Tian, Cai, Claggett & Wei, 2013). Wilson (2008) describes the target population as the precise, broad group applicable to the study. The target population of this study was made up of all managers from the selected construction organisation in Harare, Zimbabwe. The population included all the managers occupying different management levels in the construction company. According to the Human Resources Manager of the company, there were fifteen managers occupying three different management levels (senior, middle, and low level managers). All these managers played a critical role in the implementation of TQM in the company. The target population of the study therefore consists of these fifteen (15) managers.

### **3.6 STUDY SAMPLE SIZE**

A census approach was adopted in the study. A census approach attempts to list entire elements in a group and measure one or more characteristics of those elements (Creswell, 2012). The choice to take a census approach versus a sample, if not mandated by the statute, is often based on a valuation of the coverage, cost, errors in the data and other qualitative issues. Creswell (2000), recommends the use of a census approach when studying the whole population. Conversely, Zhao et al. (2013) state that if the sample size is 200 or less, it is then advisable to conduct a census approach. The author noted that conducting a census approach for a small population eradicates sampling errors and provides efficient data of all the individuals in the population. For this research, the target population is made up of fifteen managers. Because the sample size is small, the researcher opted for a census approach where the target population is used as the sample size. The sample size of the study is therefore made up of fifteen (15) managers.

### **3.7 STUDY SITE**

The study was carried out at a construction company located in Harare, the capital city of Zimbabwe. The researcher chose to do the research in Harare because the head office of the company is based there.

### **3.8 SAMPLING METHODS**

There are two types of sampling methods that researchers can use (Gentles, Charles, Ploeg, & McKibbin, 2015). These are probability and non-probability sampling methods. In selecting a

sampling method, the researcher needs to consider the nature of the research, the research objectives, budget and the time (Zhao et al. 2013). For this study, sampling was not required because a census research approach was used.

### **3.8.1 Probability sampling**

Probability sampling uses random sampling techniques to create a sample (Gentles et al., 2015). Probability is defined by the fact that every member of a population has a known and equal chance of being selected (Creswell, 2017). For instance, if you had a population of 100 people, each person would have odds of 1 out of 100 being chosen. Probability sampling provides the greatest chance to create a sample that is actually representative of the population (Uprichard, 2013). Arithmetical implications can be made by researchers using this technique, i.e. the result obtained can be generalised from the surveyed sample to the target population (Sekaran & Bougie, 2016). There are several types of probability sampling, namely simple random sampling, stratified sampling, cluster sampling, and systematic sampling (Teddlie & Yu, 2007).

### **3.8.2 Non-probability sampling**

Non-probability sampling technique uses non-random processes to identify the research participants. Non-probability sampling is defined as the total universe that is not given an equal opportunity of becoming a suitable part of the sample (Sekaran & Bougie, 2016). It is said that with non-probability sampling, the odds are not equal. For instance, a person might have a better chance of being chosen if they live close to the researcher or have access to a computer. Furthermore, the selection depends on the subject decision of the researcher. Therefore, conclusions drawn by the sampler cannot be inferred from the sample to the whole population (Creswell, 2017). There are different types of non-probability sampling, namely convenience sampling, quota sampling, judgment or purposive sampling and snowball sampling (Uprichard, 2013).

## **3.9 DATA COLLECTION METHODS**

The study used primary and secondary sources to collect data. Using both methods helped the researcher to record precise information about the topic selected (Hox & Boeije, 2005).

### **3.9.1 Secondary data**

Secondary data is defined as the collection of data gathered by other academics for research (Ritchie et al., 2013). Examples include authorised figures, administrative archives and other accounts kept routinely by companies. Researchers who use secondary data face a number of characteristic problems. The first problem is that researchers are required to allocate data sources in a way that reflects their research problem. Second, researchers need to be able to reclaim the data produced. Last, it is significant to analyse if data meets quality specifications of the current research and the methodological design for conclusive research results (Ritchie et al., 2013). Secondary data involves less cost, time and effort to the researcher as the data needed is readily available.

### **3.9.2 Primary data**

In-depth interviews were used to collect primary data; these provide the opportunity to develop deep insights and a thorough understanding of the research topic for the researcher (Teddlie & Yu, 2007). An in-depth interview is a qualitative data collection instrument which includes conducting intensive single interviews with a few numbers of respondents to discover the perspectives on a specific notion or situation (Taylor, Bogdan & DeVault, 2015). The advantage of using primary data is that the original information is collected with the purpose of the study in mind.

There are three different types of interviews, namely, structured, semi-structured and unstructured interviews (Taylor et al., 2015). In structured interviews, interviewers ask questions of their own choice in a standardised manner (Ellis, West, Ryan & DeShon, 2002). Structured interviews are the most controlled type of interview as questions are fixed and asked in precise order. These types of interviews most closely approximate a survey, being read clearly without deviation from the script. Although the structured interviews are mostly controlled, they do have benefits over surveys (Teddlie & Yu, 2007). These benefits include lower levels of item non-response and the ability for an interviewer to mitigate unsuitable answers (Ellis et al., 2002). However, in a structured interview, if a respondent specifies that they do not understand a question or a term in the question, the interviewer is normally limited to provide only a previously scripted clarification or definitions of terms as “whatever the term means to you” (Lockett, Hatton, Turner, Stubbins, Hodgekins &

Fowler, 2012:55-68). Otherwise, the interviewer is mostly unable to deliver any explanation beyond repeating the question.

Unstructured interviews are more flexible as questions can be adapted and changed depending on the respondent's answers. Ellis et al. (2002) defined unstructured interviews as a natural extension of participant observation. These interviews, it has been argued, rely completely on the impulsive generation of questions in the natural flow of communication (Patton, 2002). These interviews are useful when the researcher wants to achieve an in-depth understanding of a particular phenomenon within a specific cultural context. In particular, they are most appropriate when using an interpretivist research paradigm, where it is assumed that reality is socially constructed by participants in the setting of interest.

Semi-structured interviews are conducted on the foundation of a loose-structure which comprises of questions that are open-ended outlining the area to be researched (Rabionet, 2011). An interview guide is used in semi-structured dialogues for queries and subjects that need to be addressed. The inquiries are standardised and investigations may be provided to guarantee that accurate material is covered by the researcher. This type of interview collects complete information in a style that is somewhat conversational (Rabionet, 2011).

Given the three types of interviews, the researcher used semi-structured interviews. This is because the researcher wanted to conduct a thorough investigation of how TQM is implemented in a selected construction company. Semi-structured interviews helped the researcher to understand thoroughly the responses provided. Furthermore, semi-structured interviews comprise both components of structured and unstructured questions. Boyce and Neale (2006) posit that semi-structured interviews generate a set of inquiries to be responded by all candidates. Nevertheless, extra questions can be asked throughout the interview session for the clarification and expansion of certain issues (Rabionet, 2011). Interviewing the selected managers was motivated by the fact that top managers were cited in the study as organisers and catalysts to knowledge sharing. Conducting interviews with managers such as senior managers or the directors of the company led the researcher to establish their roles and level of encouragement in information distribution.

### **3.9.3 Structure of in-depth interview guide**

The interview guide used in this study is attached in **Appendix C**. The questions were generated from information gathered from the literature review. The interview guide was divided into seven sections. The sections focused on demographic profile, managers' perceptions of TQM implementation, how top management influence implementation of TQM, employee empowerment, organisational culture, the efficiency and effectiveness of the communication, the efficiency of technology in the firm, challenges faced and different strategies used.

**Section A:** This section outlined the background information of the managers. Six questions were considered in the section to understand the demographics of employees. Employees were asked to identify their age, gender, and qualification, and job title, number of years they have worked for the organisation and their motivation for working for the company.

**Section B:** The section looked at how top managers perceive implementation of TQM. The six questions were designed to understand the perceptions of managers concerning the implementation of TQM. The section also asked the question of how the company's mission, vision statements and policies are aligned to TQM.

**Section C:** This section was used to draw insights on how employee empowerment benefits the implementation of TQM in the organisation. The section asked the managers if employees were involved in problem-solving. The section also focused on empowerment of employees through education and training to increase their knowledge of TQM.

**Section D:** This section looked at how the organisational culture impacts implementation of TQM. The section enquires about the types of cultures in the organisation and the relationship between organisational culture and TQM. Explanation of organisational culture of the company was asked in detail.

**Section E:** The section outlined the use of communication and technology in assisting the implementation of TQM. The section was also used to determine if the technology used was always efficient and effective and if it was modernised technology. It also looked at the free flow of QM information through the use of internal and external communication channels. Last, it asked if the IT is achieving any positive results when implementing TQM.

**Section F:** The section looked at discovering the challenges faced by the company during the implementation of TQM. It also looked at the main types of challenges which hold the company back from progressing with their implementation.

**Section G:** This section looked at how the company investigates and tries to overcome some of the challenges they encounter in implementation of the TQM process. It asked the company different strategies they use to overcome some of the challenges and how effective are these strategies. Last, the section asked if the company recommends other strategies used by other firms in the country.

### **3.10 DATA ANALYSIS**

Data analysis is the art of examining the raw evidence with the purpose of drawing a conclusion about the information collected (Sekaran & Bougie, 2010). The study adopted a qualitative research approach method and was analysed using NVivo 11.

#### **3.10.1 An overview of NVivo**

NVivo is software that is used to help the researcher to easily organise and analyse unstructured information (Wong, 2008). It is a complete qualitative data analysis software package. This tool supports qualitative and mixed method research. When the data collection phase has passed, the data requires being coded, keyed in and edited (Sekaran & Bougie, 2010). Wong (2008) states that data obtained from qualitative studies involves planning before analysis can begin. The data in this study was recorded through in-depth interviews. The data reduction tool that was used was NVivo 11. The software analyses unstructured data and creates word tag clouds, word trees, coding and themes, mind maps and treemaps. The NVivo software can be used to organise and analyse interviews, group discussions, surveys, video footage, images, audio, social media, textual sources and everything else that falls within (Corbin & Strauss, 2008). This tool provides a workspace for every stage of the researcher's project from organising material through analysing, sharing and reporting (Bazeley & Jackson, 2013). Sekaran and Bougie (2010) state that NVivo is more than a simple qualitative data analysis program, but a vital resource used for planning, team coordination, literature reviews, research designs, data analysis, and reporting.

Given the improvements in software technology, electronic techniques of data coding are gradually being increasingly engaged, to obtain accuracy in dealing with such data. Furthermore, using a computer basically ensures that the user is working more methodically, thoroughly and attentively (Bazeley, 2007). Thus, qualitative researchers are encouraged to use this tool as much as possible in their research projects. NVivo has various advantages and it improves the quality of research. Analysis of qualitative data has become easier than before and generates more professional results. NVivo is considered an ideal technique for researchers who work in teams as it enables combining the work of individuals to come up with one project (Atchison, 2009). In general, researchers are strongly advised to use this software in order to deal with muddled, vague and time-consuming tasks. Wong (2008) posits that the use of a qualitative approach in education is likely to develop in parallel with the fast advancement of computer-assisted/aided qualitative data analysis (CAQDAS). The use of NVivo added value to this case study as it helped the researcher to get deeper insights from the participants through themes which were generated using a mind map and a word cloud. This helped the researcher to easily identify the most important words that had contributed to the TQM implementation. With NVivo combining all the different responses from different participants, it made life easier for the researcher as it enabled her to quickly manage the grouping of the participants according to what was contributed.

### **3.11 VALIDITY**

Validity assesses whether the research is accurately measuring that which it was intended to measure or how truthful the research results are (Golafshani, 2003). The validity of qualitative research means “*appropriateness*” of the tools, procedures, and data (Golafshani, 2003:604).

#### **3.11.1 Content validity**

Content validity refers to the extent to which a result represents all facets being investigated in the research study (Foxcroft, Paterson, Leroux & Herbst, 2015). Content validity was checked by pilot test to test appropriateness of research instruments. Research instruments items were selected and checked if they will assist in capturing intended data for the study. Foxcroft et al. (2015) state that using a board of specialists to review the test specifications and the selection of items adds value to the content validity. The specialists will be able to review items and remark on whether the items cover a representative sample of the study area. Content validity answers the question, for

example: “Does the valuation cover an illustrative sample of the content that should be assessed”? The researcher has applied relevant literature and theories about both small and large companies in world to ensure content validity.

### **3.11.2 Construct validity**

Construct validity is involved any time that a text has to be interpreted as a measure of some attribute or quality which is not operationally defined. The difficulty most researchers face is associated with what constructs verification for variance in test presentation and analysis (Henry & Crawford, 2005). In order to evaluate whether the research covered most of the variables that were used to address the research objective, the semi-structured interview guide was exposed to pilot testing. The researcher also used a framework to develop the interview guide, making sure that the questions were developed from the constructs.

### **3.12 Reliability**

Golafshani (2003) posit that reliability is the extent to which outcomes of a study are reliable over time. Cope (2014) states that if the process is repeated several times under the same conditions, reliability assesses the extent to which the measurement technique produces a similar result. In a quantitative study, reliability discusses the detailed replicate of the procedures, whilst the outcomes in a qualitative study may vary slightly. To ensure the reliability of the findings and diminish biased results, primary data was compiled using in-depth interviews, from the top management to floor management of the company, on the implementation of TQM.

### **3.13 Trustworthiness**

The trustworthiness of a qualitative study is mainly asked by positivists in light of their notions of validity and reliability. This cannot be addressed in a similar method in original work. Nonetheless, different writers on research methods, notably Shenton (2004), have proven how qualitative researchers can include measures that deal with the subject matter. Shenton (2004) observed investigators who have endeavored to respond to the problems of validity and reliability in their individual qualitative studies. Many qualitative researchers have employed different terminology to address the same issue, distancing themselves from positivist model (Shenton, 2004).

**Credibility** – refers to the authenticity of data used by the researcher, through the participants' opinions, interpretation and demonstration of data (Golafshani, 2003). Credibility is developed by the researchers from skills gained from an individual's experiences and confirming the research results. According to Cope (2014), qualitative study is considered trustworthy if the representations of human experience are recognised by people of similar knowledge. When reporting a qualitative study, the researcher has to support credibility by demonstrating credibility of both research method and results.

**Dependability** – refers to the faithfulness of the data over comparable circumstances (Polit & Beck, 2010). The faithfulness of data is attained when another researcher is able to replicate results with the collected at every phase of the investigation procedure (Henry & Crawford, 2005). Throughout the researcher's procedure and descriptions, a study can be considered trustworthy if the study findings were replicated with similar members in comparable situations (Golafshani, 2003).

**Conformability** – refers to the researcher's ability to prove that the data represents the member's responses and not the researcher's prejudices (Cope, 2014). The investigator is able to prove conformability through cross checking with insights presented in reviewed literature for the study. In addition, the investigator can also demonstrate that findings are aligned to the research objective of the study. In the analysis of qualitative research, this can be revealed by rich quotes from the participants that illustrate every developing theme.

**Transferability** – refers to the discoveries that are useful to other sceneries (Shenton, 2004). Researchers should deliver adequate evidence on the participants and the background of the investigation. This allows the reader to measure whether the outcome is "appropriate" or convertible (Cope, 2014). Nevertheless, the principle of transferability relies on the aim of the qualitative study and ability of the results to be generalized across the sector under study (Cope, 2014).

**Authenticity** – refers to the ability of a scholar to relate the way participants' feelings and emotions are expressed and reflect their experience in a truthful way (Polit & Beck, 2012). In the descriptive approach, researchers are guided evidence provided by research participants. Hence, Shenton (2004) suggested that primary and secondary validity standards are essential for criticising a qualitative study as they support the authenticity of research results.

### **3.14 PILOT TESTING**

A pilot study is a mini-version of the complete research strategy which is prepared in the planning of the whole study (Kim, 2011). It is also termed a feasibility study and can be a precise pre-testing of research instruments, which includes questionnaires or interview schedules (Kim, 2011). Therefore, a pilot study is worth doing as it tests the feasibility of both the research and data instruments of the research process itself. Pilot testing includes trying out the questionnaire on a lesser number of the suggested sample in order to get an idea of how the research contributors would react and complete the projected instrument (Stangor, 2014). The sample of pre-testing can include four or five individuals but not more than thirty people. Pilot testing ensures that the participants understand the questions as the investigator expects them to do. Stangor (2014) states that pilot testing also eradicate the majority of complications that arise in data recording, validity and reliability. In this study, pilot testing was conducted two individuals, to test if they understood the questions and if the questions were interpreted correctly. Feedback from the pilot test was used to improve clarity of the interview questions and, where possible, questions were rephrased for clarity. Kanafani et al. (2006:635-639), states that *“You may think that you know well enough what you are doing, but the value of pilot research cannot be overestimated”*.

### **3.15 ETHICAL CONSIDERATIONS**

Ethical considerations in any type of research are critical. Ethics mean norms or principles of behaviors that differentiate between rights and wrong (Newell & Nelson-Gardell, 2014). This helps to govern the difference between satisfactory and intolerable behaviors (Walker, 2007). Overall, the construction industry has a poor reputation regarding ethical considerations. It has been extensively observed that it is a sector with unethical practices, health and safety failures, and injurious to the environment

To ensure the interests and protection of participants in the research, an ethical procedure was undertaken in the research project as well as with the company. The researcher sought authorisation from the management department of the construction company before carrying out the research, and a gatekeeper’s letter was issued. The whole information obtained in this research would be used for academic purposes and will be kept strictly private and confidential. An ethical

clearance certificate protocol reference number HSS/1834/017M was issued by the University of KwaZulu-Natal (UKZN) and attached as **Appendix B**. In addition, the participants were assured of the confidentiality of information given, where necessary.

### **3.16 CHAPTER SUMMARY**

An outline of the research methodology was provided in this chapter. The research design for the study was presented. The design was informed by the objectives identified for the study. The chapter presented various research paradigms and discussed research paradigms used for this study. The population and sample were prudently selected. The in-depth interview guide was designed as an investigation tool to guide interview proceedings. The investigation tool was clearly designed and tested to certify validity and reliability of data and results of the study. The parameters of the research were established mostly on the basis of a detailed literature review. The chapter outlined the trustworthiness of the data provided by explaining in detail the concepts of credibility, dependability, transferability, and conformability for the accuracy and source of data. Lastly, it discussed the pilot testing of the research instruments and how ethical issues were addressed in the study. The following chapter presents and interprets empirical results of the data collected.

## CHAPTER 4

### PRESENTATION OF RESULTS

The previous chapter discussed the research methodology that was embraced in the study. This current chapter will be discussing the presentation of results.

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#### 4.1 INTRODUCTION

The previous chapter explained the research methods adopted for this research. This chapter describes outcomes obtained from in-depth interviews. This chapter is divided into two sections. Section A profiles demographic results of participants, and Section B presents qualitative results obtained from the in-depth interviews. The results are arranged according to the objectives of the research study.

#### 4.2 RESPONSE RATE

**Table 4.1.** shows the response rate of the study.

**Table 4. 1 Response rate**

<b>Research Activity</b>	<b>Target population</b>	<b>Number of Respondents</b>
In-depth interviews	15	7
<b>Response rate</b>		<b>46.6%</b>

The study targeted fifteen (15) managers and out of these, seven (7) managers participated in the research project. This, therefore, gives a response rate of 46.6 percent. This low response rate was accredited to the timing of the data collection, which was conducted between December 2017 and February 2018. During this period, the company was unable to provide enough participants for the researcher. Most targeted managers were retrenched between December 2017 and February 2018 due to economic conditions faced by the country. Some of the employees had left the company for greener pastures whilst some had apply early leave for festive holidays. In addition, during this

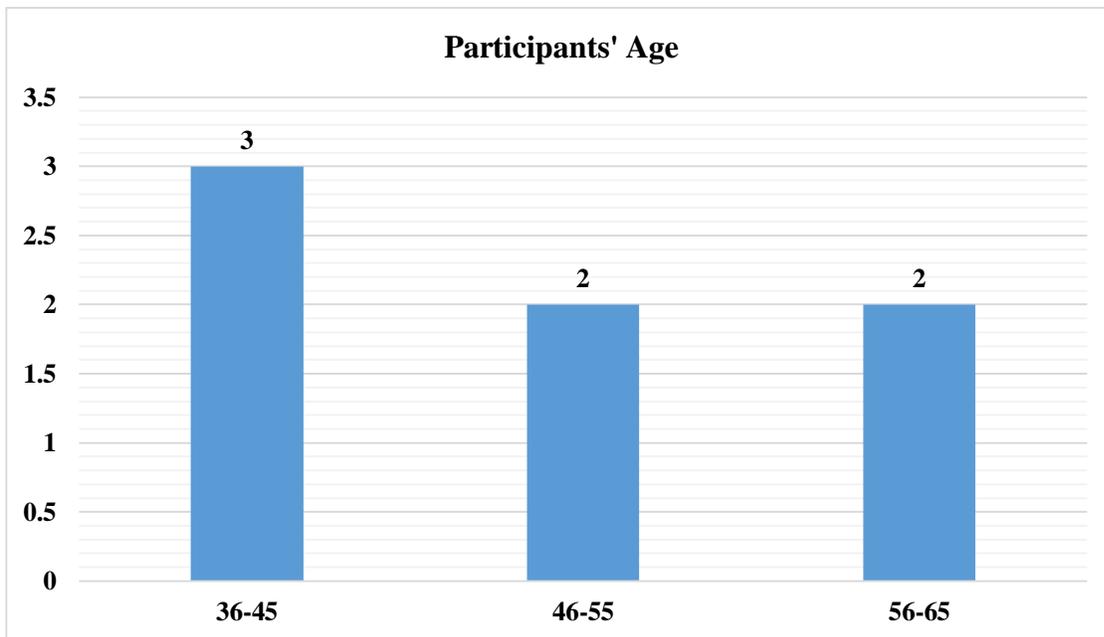
time, new managers had been hired by the company to replace a few which had left whilst the researcher was trying to collect data.

### 4.3 SECTION A: DEMOGRAPHIC PROFILE OF PARTICIPANTS

Section A represents the demographic outcomes of participants. In interview process, participants were requested to provide background information regarding their age, gender, the highest level of educational qualifications, position held in the company, and the number of years they have worked for the company. In addition, participants were also requested to explain what motivated them to seek employment in the company. The section also provides a brief description of the company.

#### 4.3.1 Age distribution of the participants

The research results of the participants are presented below. The participants' age categories are depicted in **Figure 4.1**.



**Figure 4. 1 Age distribution of participants**

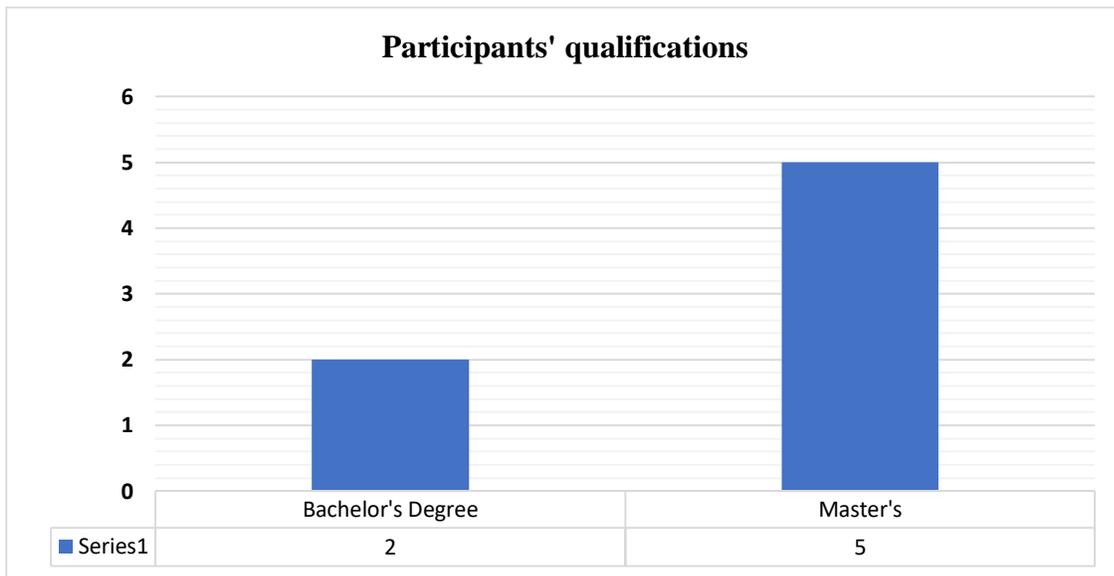
The results show that three managers were aged between thirty-six (36) and forty-five (45) years. The second category had two managers aged between forty-six (46) and fifty-five (55) years. The last age group constituted two participants who were the oldest members of the management team, aged between fifty-six (56) and sixty-five (65) years.

### 4.3.2 Gender of the participants

All the 7 participants interviewed were males. This shows that the sample lacked diversity.

### 4.3.3 Highest educational levels of participants

The graph shows the qualifications of the participants in **Figure 4.2**.



**Figure 4. 2 Highest educational qualifications of the participants**

**Figure 4.2** show that two (2) participants had Bachelor’s degree level, whilst five (5) participants had a Master’s degree qualification. Having these different qualifications show that TQM is important for both the country and company. It also makes the company reputable if TQM is applied correctly and the results are achieved. Most projects in the construction industry increase the GDP of a country (Isa, Jimoh & Achuen, 2013). Hence, this field must be handled by the most experienced and skilled individuals. Employees must be specialised to a specific field when working in the construction sector which uses TQM.

**Table 4.2** shows the management level and their occupation title.

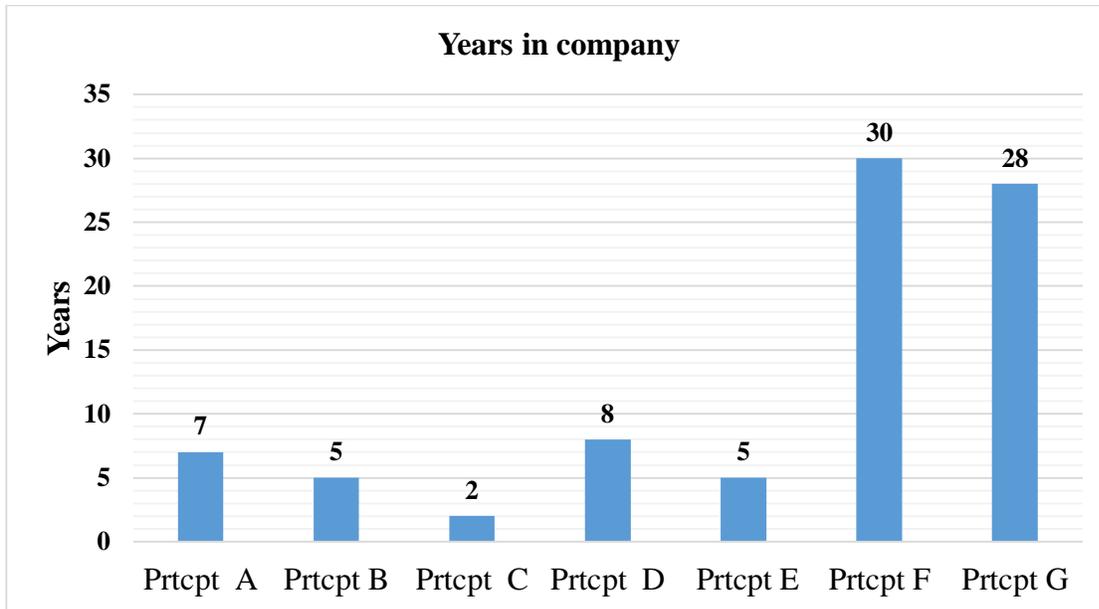
**Table 4. 2 Profession title held by the managers in the company**

<b>Management level</b>	<b>Occupation title in the company</b>	<b>Number of respondents</b>
Senior Management	<ul style="list-style-type: none"><li>• Chief Engineer Manager</li><li>• Technical Manager</li></ul>	2
Middle Management	<ul style="list-style-type: none"><li>• Project Manager</li><li>• Contract Manager</li></ul>	2
Floor Management	<ul style="list-style-type: none"><li>• Construction Manager</li><li>• Quality Assurance Manager</li><li>• Design Manager</li></ul>	3

The middle management and floor management are not considered as top managers. The top managers are responsible for formulating and directing implementation of TQM with the help of the middle and floor managers. The results show management distribution positions held by respondents in the company. Three managers occupied the floor management positions within the company. These are the construction manager, quality assurance manager, and design manager. There were two middle managers who are responsible for planning and approving new projects. These are the project manager and contract manager. In senior management, there were two directors of the company. These are the chief engineer and technical manager.

#### **4.3.4 Years served in the company**

**Figure 4.3** depicts the number of years that the participants have served in the company.



**Figure 4. 3 Years served in the company**

The results in Figure 4.3 show that Participant F had the most years in the company, thirty years. The second highest number of years served was by Participant G who had twenty-eight years. These two (2), Participants F and G, with the highest years served are directors of the company. Participant D had eight years, followed by Participant A who had seven (7) years. There were two participants who had both served for the same amount of years in the company, namely Participant B and E. Lastly, Participant C had the lowest number of years in the company, two years.

#### **4.3.5 The motivation for working for the company**

**Table 4.3** shows the factors which motivated the participants to work for the company. The themes are shown in **Table 4.3**.

**Table 4. 3 Motivation for working for the company**

Themes	Frequency
Opportunity to exercise expertise in the field	2
Commitment to developing the business	2
Follow my passion	2
Commitment to infrastructure development	2
Opportunity to work for a reputable company	1
Lucrative working conditions	1
To contribute to the GDP of my country	1

The results show that managers have different motivations for working for the company. As represented in **Table 4.3**, seven themes emerged from the managers. The participants were motivated to work for the company because of the following reasons: opportunity to exercise expertise in the field, commitment to developing the business, following their passion, and commitment to infrastructure development. The other reasons were opportunity to work for a reputable company, lucrative working conditions, and the opportunity to contribute to the GDP of the country. The two participants A and E stated that working for this company improves their expertise and knowledge in the field. Participants A and E said the following, concerning the application of skills:

*“... Working for this company gave me an opportunity to exercise my expertise and knowledge of the construction industry ...”* - Participant A

*“... I was motivated by the need to develop and sharpen my business skills...”*  
- Participant E

The next two participants, C and E, were motivated to work for the company because of their commitment to develop the small business. The following quotes from Participant C and E supports the theme.

*“... I was motivated by the fact that I wanted to contribute to an indigenous owned business...”* - Participant C

*“... I wanted an opportunity to contribute to the success of the business that I am working for ...”* - Participant E

This was followed by two participants, F and G, who mentioned that working for this company was to follow their passion. Participants F and G mentioned that they stayed on the business because they were passionate about construction work:

*“... I have always been interested in construction work since I was young. So the company was formed out of my passion for the construction industry and I wanted to leave my mark in the industry that I love so much ...”* - Participant F

*“... I had a passion of being my own boss...”* - Participant G

Participants F and G were motivated to work for the company because they were committed to infrastructure development of the country.

*“... My country is lagging behind in terms of infrastructure development. So working for this company offered me an opportunity to contribute towards infrastructure development of my country..... and I am grateful for this.”* - Participant F

Another supporting quote was from Participant G:

*“... My individual contribution towards the industry may be minute, but I believe together we can contribute more. The company gave me a platform to contribute towards the construction industry in this country...”* - Participant G

Three participants showed different themes for working in the company. Participant B indicated that the company was reputable.

*“... I wanted to work for a reputable company ...”* - Participant B

Participant D stated that the company had good working conditions.

*“...The working conditions of the company are good compared to other companies in the construction industry...”* - Participant D

Another participant showed that working for the company would improve the GDP of a country. Below is a quote from Participant F:

*“...Working for a construction company afforded me with an opportunity to contribute towards the GDP of my country...”* - Participant F

The above quotes show that all participants believed in working for the company for different reasons which benefit them personally and benefit the country. Other participants followed their passion for the construction industry, while others were motivated by contributing to the development of their country.

#### **4.4 Brief description of the company**

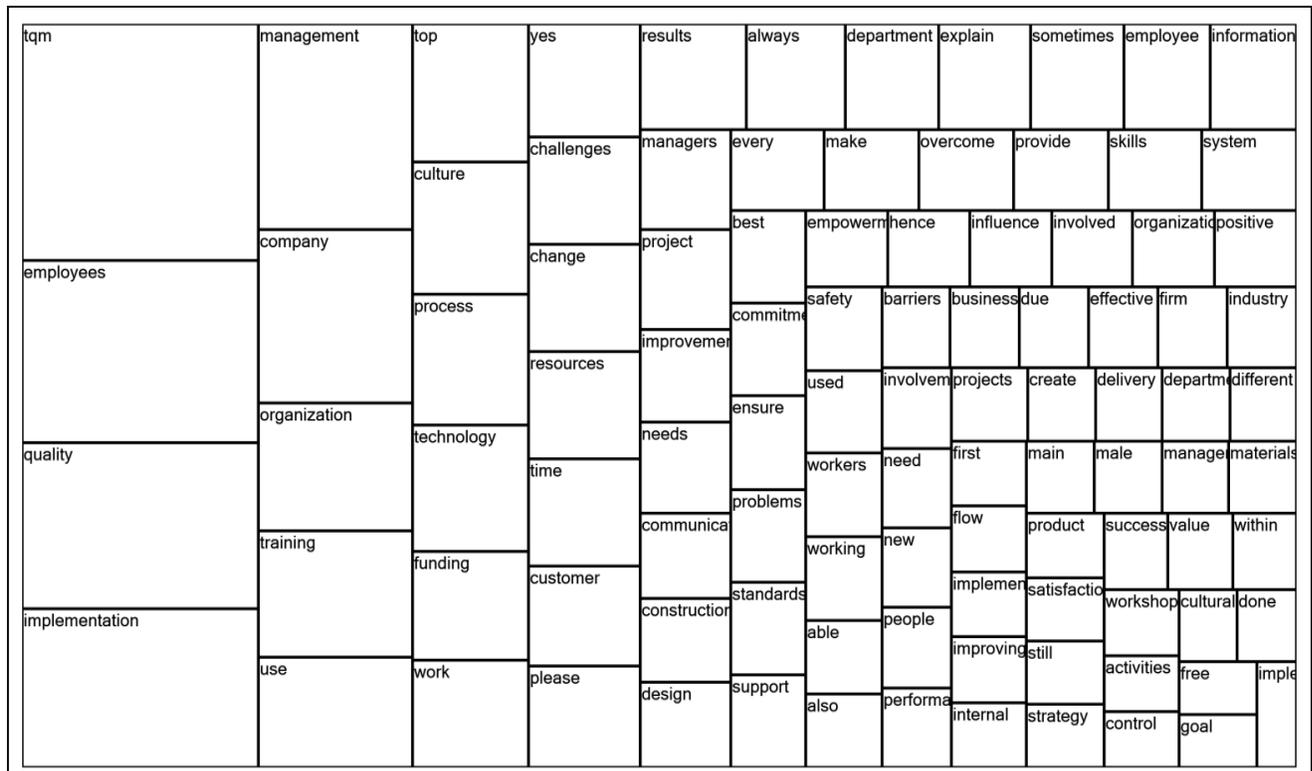
The company is a registered Private Limited Company. The company is mainly a structural and civil engineering consulting company that offers quality service to its customers since its inauguration in 1992. Through its dynamic team of engineers, the company has carried out a wide variety of projects in structural fields, including civil, transportation, water, and environmental engineering. The company has offices in Zimbabwe in the two major cities of Harare and Bulawayo. The company has knowledge in every aspects of project and construction management, from feasibility studies through concept design, detailed design to final hand over. Furthermore, the company is a member of the Zimbabwe Association of Consulting Engineers (ZACE). Through this membership, the company is bound by professional ethics applicable to all members of the International Federation of Consulting Engineers (FIDIC) as well as the ZACE code of conduct. In addition, the company associates with other professionals including ecologists, economists, geologists, environmentalists, sociologists and others who put their knowledge together in an integrated approach towards problem-solving. These associations then enable the company to, at very short notice, put together tailor-made teams to meet each client`s unique and specific needs. The company has been operating for the past twenty-six years in Zimbabwe.

#### **4.5 PRESENTATION OF RESULTS**

##### **4.5.1 Summarisation of mind map coded word analysis**

**Figure 4.4** shows the data summation presentation of the entire interview array. Based on the findings, key subjects and themes were highlighted with patterns and the emerging relationships.

This data was structured into categories, sub-categories, patterns, and relationships. The graph shows how the summation of data was presented after interviews had been conducted with the participants.



**Figure 4. 4 Summarisation of entire coded word analysis in a mind map**

The responses of the participants were recorded using an audio recorder. The audio recorder was used to record the interviews. The recorded interviews were transcribed in Microsoft word document, and were uploaded into the NVivo 11 software. Thereafter, the transcribed data was coded and organised in the NVivo software by grouping them into themes and sub-themes. The use of NVivo maps added value through the selection of the words that were relevant to the research objectives, shown in the presentation of results produced by the participants. The results of the mind map analysis depicted in Figure 4.4 show that the block size contributes to the usefulness of a word used towards successful implementation of TQM in the specific case study. The results can be interpreted horizontally, vertically, across, top down, and bottom top down-up depending on the choice of the researcher and how the results can be aligned to the objectives of the study. There are four main themes presented in the mind map, namely, management,

employees, quality, and implementation. These themes form the foundation of the subthemes under each main theme. The total subthemes extracted from the main themes were ninety-seven. The result in Figure 4.4, shows that TQM word has the largest block, which means that it is the key subject of the matter.

According to Figure 4.4, the results show that top management influences TQM implementation. This is because top managers should be there to direct implementation of TQM in order to achieve fruitful results. Most of the participants agreed that top management influence TQM implementation. The results showed that company culture contributed a great deal to the success of TQM implementation. There are challenges to be encountered during this implementation process and managers must provide skills and systems to the employees to overcome these challenges. The results show that top management must always provide good results and explain information about the new systems to the employees. This will result in empowering employees with what they are expected to perform for different tasks.

#### **4.5.2 Summary of coded word cloud analysis**

The graph shows how data has been presented and summarised after the interviews were completed **Figure 4.5**, shows the entire summarisation of data from the interview participants.



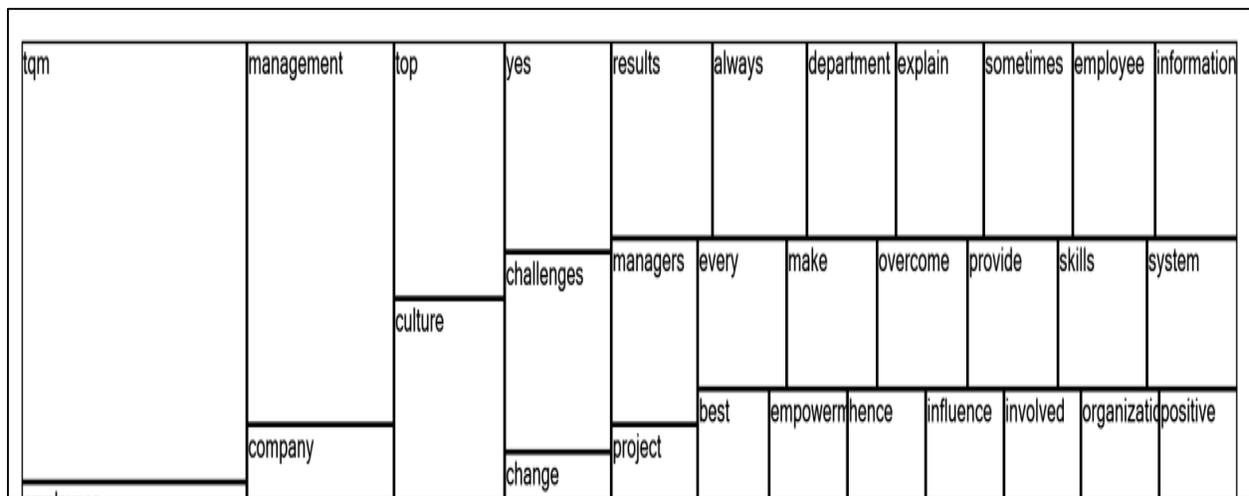
shows how important words were picked and evaluated from the participant’s different views after the interviews had been completed. The words in large white colour font size show that they were themes of the study. The subthemes’ words were allocated behind the main themes.

**4.6 PRESENTATION OF RESULTS ACCORDING TO OBJECTIVES**

This section provides a description of each objective, and the question is presented. This is followed by the interpretation of quotes from participants. The description of questions is illustrated using word clouds, theme tables and mind maps. These tools were used to support outlying themes and indicate levels of dominance.

**4.6.1 Objective 1: To evaluate the influence of top management on the implementation of total quality management in a construction company in Zimbabwe.**

This first objective of the study was to understand how top management influences implementation of TQM in the selected construction company in Zimbabwe. To explore this objective further, six questions (7, 8, 9, 10, 11 and 12) were asked and presented in interview guide **Appendix C. Figure 4.6** presents the results of the first objective of top management influences on the implementation of TQM in the Zimbabwe construction industry.



**Figure 4. 6 Mind map analysis for top management evaluation**

The diagram shows that management was seen in a larger box of the second column which means that it plays a huge role in the success of TQM implementation. Furthermore, the top word was seen in the third column, meaning that top management contributes a great deal to the TQM implementation. This means that top managers' involvement has an effect on the successful implementation of TQM. The word management was the main theme which encompasses twenty-eight subthemes. These subthemes can be constructed to make some useful sentences about management and TQM implementation. Figure 4.6 shows that, yes, top management is always required for every department for the formation of TQM. The result also shows that employees need to be provided with information on TQM before implementation takes place. The company culture contributes a great deal to the formation of successful TQM implementation. This is because company culture cannot be changed overnight.

During this process, managers encounter challenges as employees are resistant to change. To overcome some of these challenges, managers need to provide skills in terms of education and training. Hence, application of the right systems, which includes communication, is necessary in the company. Managers need to reward the best employees according to their job performance. This will empower employees as they will be also involved in all decision-making processes. The organisation is seen to be achieving a positive result in management as they use the resources which are available to them regardless of the country's economic situation. Therefore, the involvement of top managers in the implementation of TQM with their junior managers is necessary. Top managers are required to monitor every stage of the TQM implementation process if it is to move according to the goals designed.

#### **4.6.1.1 Emerging themes on views of top management on implementation of TQM**

This subsection looked at the views of top management towards implementation on TQM. It also looked at whether top management was providing a necessary conducive environment for implementation of TQM. **Table 4.4** presents the results from participants of how top management provided a conducive environment.

***Q7: What kind of conducive work environments does the top management provide for the success of TQM implementation?***

**Table 4. 4 Emerging themes on kind of conducive work environments**

THEMES	Conducive work environments	Sum	Frequency
	Specialisation of skills	1,1,1	3
	Provide supportive leadership	1,1	2
	Reward good performance	1,1	2
	Provide training	1	1
	Encourage open communication	1	1

The themes in **Table 4.4** highlights what can be done by management to create a conducive environment for the successful implementation of TQM. These themes are specialisation of skills, providing training, providing supportive leadership, encouraging open communication and rewarding employees for good performance. These quotes indicate that top management should invest more effort to ensure that a conducive environment is created if they are to successfully implement TQM. Furthermore, employees should be involved in the decision-making process so that they feel like they are part of the process. Below is a quote from Participant F, which supports the theme of specialisation of skills, which had the highest frequency.

*“... Management encourages workers to ‘own’ their respective areas of responsibilities...” - Participant F*

Another quote which supports the lack of leadership in the company was from Participant C.

*“... Efforts should be made to rectify the lack of supportive leadership style. This can be achieved by providing an on-site training workshop. The leadership of the company should attend and resolve queries timeously ...” - Participant C*

The quote from Participant C shows that top management is not providing a supportive environment for the implementation of TQM. One way of achieving this is to provide on-site training workshops for their employees. Participant C also suggested that it would benefit the company if the leaders resolved these queries timeously. Creating a conducive environment using the suggestions mentioned above would result in reduced errors in implementation of TQM.

***Q8: Does the top management provide critical resources for employees and the company to successfully implement TQM?... If so, what kind of resources do they provide?***

The following subsection looked at the critical resources for employees which were aimed at the success of TQM implementation. **Table 4.5** presents the results from participants on how top management provided the necessary critical resources for the success of TQM.

**Table 4. 5 Emerging themes on views on critical resources provided aimed at the successful TQM implementation**

THEMES	Critical resources for employees and company	Sum	Frequency
	Frequent employee training programmes	1,1,1	3
	Use of suggestion boxes	1,1	2
	Plant and equipment	1,	1
	Necessary safety clothing	1,	1
	Research facilities	1,	1

The results show that among participants, the highest frequency of three indicated the theme of frequent employee training programmes. The other themes are use of suggestion boxes, necessary safety clothing, plant and equipment, and provision of research facilities. Below is a quote from Participant D, supporting the theme of frequent employee training programmes;

*“...They send few employees for workshops to allow cross-pollination of ideas...”* -  
Participant D

The quote from Participant D shows that managers have been sending few employees for workshops. This was due to the limited resources in the company. The company also lacks safety clothing and research facilities which are necessary for the implementation of TQM.

***Q9: How does your management involvement influence the role of TQM implementation?***

***Q10: What measures does the top management design to ensure the excellence of TQM implementation?***

Questions 9 and 10 contributed similar insights from participants. Analyses of the results were combined on one table. **Table 4.6** shows how management involvement influences the role of

TQM implementation and the measures taken by top management to ensure the excellence of TQM implementation.

**Table 4. 6 Emerging themes on views for the involvement of management and measures taken**

THEMES	Involvement of management and measures taken	Sum	Frequency
	Rewarding employees	1,1,1,1	4
	Minimum management involvement	1,1,1	3
	Training programmes	1,1,1	3
	Providing full product knowledge	1,1	2
	Specialisation of skills	1,1	2
	Delegating quality issues to one department	1,	1

The three themes, namely, training programmes, specialisation of skills, and product knowledge share similarities, as when employees receive training, and gain skills on the product knowledge. These themes are grouped together because when employees are trained frequently, they will acquire full product knowledge. Employees will be able to deliver efficient results as their knowledge would be expanded for different ideas and innovations. Furthermore, employees will become experts and specialised in their profession. Employees are rewarded according to their job performance. The management involvement theme is seen as minimal in TQM implementation. The following themes, namely, specialization of skills and delegation of quality issues to one department can be grouped as similar themes. Below is a quote from Participant E, which supports the highest frequency for rewarding employees.

*“...Management rewards workers for high-quality work, if the set quality targets are met, workers also receive bonuses...”* - Participant E

Another quote which supports the second highest frequency, which says management involvement is minimal, was from Participant A.

*“... Management involvement is minimal. The issues of quality are usually delegated to the quality assurance department. There is usually some slacking as management do not do what they preach...”* - Participant A

The quotes show that management rewards employees when they meet their targets. The quotes also show that management involvement was minimal. This means that top managers were not involving themselves much during the TQM implementation process. The quotes showing that managers were not doing as they preach reflect on their leadership style – which is detrimental to the implementation of TQM.

Supporting minimal management, as shown in Table 4.6, is a quote from Participant D:

*“... There are specialist people who oversee activities from every stage. There is also a quality control organ led by most senior and experienced engineers...”* - Participant D

Another supporting quote was from Participant E.

*“... It is the job of the line managers to facilitate the adoption of TQM in their areas and remove barriers to implementation...”* - Participant E

The quote shows that top managers have to facilitate the adoption of TQM. The quotes show that top management should make an effort to solve the problems encountered during the implementation of TQM. This is shown by the other participant who mentioned that it is the job of line managers to remove barriers to implementation. The quotes also show that there was a quality organ which was led by the most senior and experienced engineers. The top managers guide and provide a strategy for implementation of the TQM process. In doing so, it is important for them to get input from the employees who are responsible for implementing TQM.

***Q11: How does top management support an organizational culture and climate of open cooperation and teamwork amongst stakeholders in TQM implementation?***

The following subsection looked at how top management supports an organisational culture and climate of open cooperation and teamwork amongst stakeholders in the implementation of TQM. The question was trying to find out if the company is providing an organisational culture which accommodates TQM implementation. It also looked at how top management supports the organisational culture of the company in relation to TQM implementation. **Table 4.7** shows the

results from participants in support of organisational culture for the successful TQM implementation.

**Table 4. 7 Emerging themes on how top management supports an organisational culture**

THEMES	Support of organisational culture	Sum	Frequency
	Understanding the processes	1,1,	2
	Quality workshops	1,1,	2
	By emphasizing continuous improvement	1,	1
	By enabling free communication processes	1,	1
	Anticipation of change	1,	1
	The organisation needs a quality strategy to support the strategy	1,	1

The three themes, namely, understanding the processes, quality workshops, and emphasizing continuous improvement can be grouped as similar themes. This shows that the company is experiencing challenges in developing their organisational culture. This is because fewer workshops are being done frequently to practice continuous improvement. The next theme, enabling free communication processes, was contributed by one respondent. The last stages, namely, anticipation of change and organisation needs a quality strategy to support the strategy can be grouped into a similar theme. This means that for employees to be able to accept change within an organisation, the organisation needs to understand their TQM strategy. In addition, managers need to explain to employees about the systems applied so that employees will understand the skills from the onset and able to apply them practically and theoretically. Supporting the two highest themes, namely, understanding the process and quality workshops, is a quote from Participant A.

*“... Top management must personally take the time to understand the process involved. Furthermore, management should personally enquire customer satisfaction and check for the need of improvement...” - Participant A*

Another quote to support the quality of workshops was from Participant F.

*“... Need for highlighting the continuous improvement in key performance indicators...” - Participant F*

The quotes show that managers do not understand the process involved. They lack the necessary skills needed for completing successful projects. There is also a lack of enquiry about customer satisfaction and checking on the needs of their clients. According to the quote from participants A, and F, managers do not know exactly what the clients want or if the clients are satisfied with the service produced, hence it can result in ineffective TQM implementation. Another quote shows that there is a need for highlighting continuous improvement in key performance indicators. This shows that it is the manager's responsibility to understand how this is done in this company, to assure their organisational culture is aligned with the TQM implementation.

***Q12: What are some of the company`s mission, visions, and policies on the implementation of TQM?***

The following subsection looked at the company`s mission, visions and policies on the implementation of TQM. The aim of this question was to find out if the company`s vision and policies have an effect on the successful implementation of TQM. **Table 4.8** presents the results from participants on views of management towards the company`s visions and policies on the implementation of TQM.

**Table 4. 8 Emerging themes on views of management towards the company`s missions, visions and policies**

THEMES	Company missions, visions, and policies	Sum	Frequency
	Understanding values and ethics	1,1	2
	Use of planning tools	1,1	2
	Quality is everyone`s responsibility	1,	1
	To achieve the target of no remedial	1,	1
	Recognition and reward of employees	1,	1
	Transparency and accountability	1,	1
	Just in time delivery	1,	1
	Commitment	1,	1
	Change people`s lives	1,	1

**Table 4.8** shows some of the company`s mission, visions, and policies on the implementation of TQM. As presented in the table, nine themes emerged from the managers. The seven participants showed that their views of the company`s mission, visions, and policies on the implementation of

TQM were totally different to each other. Some of the themes highlighted in the table are: understanding values and ethics, use of planning tools, and maintaining quality is the responsibility of everyone in the company. Below is a quote from Participant D:

*“ ... The company’s vision should be centred on the principles of transparency and accountability, ethics, commitment, sustainable project delivery, integrity, and honesty...”* - Participant D

The quote shows that managers understand the company’s mission and vision, which is necessary for achieving the company’s objectives. The participants show that just in time project delivery should be a company’s policy. This will make the company efficient and effective in their service provided to the clients.

**4.6.2 Objective 2: To investigate how employee empowerment influences the implementation of total quality management in a construction company in Zimbabwe.**

Objective two was aimed at investigating how employee empowerment influences the implementation of TQM in a construction company in Zimbabwe. To achieve this, five questions were asked on employee empowerment towards the implementation of TQM. **Figure 4.7** presents a summary of results on research objective two, on how employee empowerment influences the implementation of total quality management in a construction company in Zimbabwe.

employees	company	culture	challenges	managers	every	make	overcome	provide	skills	system	
			change	project	best	empowerm	hence	influence	involved	organizatio	positive
	organization	process	improvement	commitme	safety	barriers	business	due	effective	firm	industry
		technology	resources	used	involvem	projects	create	delivery	departm	different	
			needs	ensure							

**Figure 4. 7 Mind map analysis for examining employee empowerment**

The mind map shows that the word employees were seen in a very large box of the first column. This means that employees are an integral part of the success of TQM. The word employees formed the basis of a total of forty-two subthemes on the importance of employee empowerment and implementation of TQM. These subthemes can be constructed into sentences to support the importance of employees in TQM implementation. The results show that employees add a competitive advantage to the success of the company. This is because employees are considered as the most important asset of the company. The result also reveals that the company is facing challenges relating to organisational culture when implementing TQM. Hence, every manager needs to overcome some of the challenges by empowering employees through skills development and provision of efficient systems. The results also show that the organisation process cannot change overnight. Therefore, project managers must empower employees and make them be involved in the process to achieve a positive result. The organisation needs enough technical resources to improve the service offered. The results also show that if managers are committed to the process, it reduces the barriers in the business in relation to TQM implementation. This will result in an effective and firm industry. The organisation needs to ensure that technology used is modernised in order to have successful TQM implementation. Involvement of employees is encouraged as employees are hands-on and they are familiar with the work on the ground. The results also highlight the need to deliver services on time to enable the company to gain a competitive advantage and good reputation.

#### **4.6.2.1 Emerging themes on opinions for employee empowerment on the implementation of TQM**

This subsection looked at opinions regarding employee empowerment in the implementation of TQM, specifically, the importance of employee empowerment for TQM implementation and the involvement of employees in TQM implementation – if it benefited the company and helped it in achieving its desired results. **Table 4.9** shows the results from participants regarding the importance and involvement of employee empowerment.

***Q13: Can you explain the importance of employee empowerment in implementing TQM?***

***Q15: How is the involvement of employees in TQM implementation benefiting the company's desired results?***

The following subsection looked at the importance of employee empowerment and the involvement of employees in TQM implementation. These questions sought to find out the position of employee empowerment in TQM implementation. It also looked at the benefits of employee empowerment, if they are involved in the TQM process.

Question 13 and 15 contributed similar insights from participants, although the wording of the questions were slightly different.

**Table 4. 9 Emerging themes on the importance and involvement of employee empowerment**

THEMES	Importance and involvement of employee empowerment	Sum	Frequency
	Working independently and teamwork is encouraged	1,1,1,1	4
	Competent employees with different perspective skills	1,1,1	3
	Managers ensure that employees are committed and involved	1,1	2
	The honest commitment of both employees and management	1,1	2
	The employee is able to deliver pleasing results	1,1	2
	Employees add value for competitive advantage	1,1	2
	Support of employees and department in the process involved	1,1	2
	Quality is continuously improved and results achieved	1,1	2
	Identification of improvement area	1,	1
	Medical aid improved	1,	1
	The company ensures employees safety through workshops	1,	1
Additional customer satisfaction	1,	1	

**Table 4.9** shows that managers have similar opinions and understandings about the company`s TQM implementation regarding employees. As presented in the table, twelve themes were developed by the managers. The results show that the following three themes can be grouped as similar: working independently and teamwork; competent employees; committed employees and management. The results show that four of the following themes can be grouped as they are similar: honest commitment of employees and management; the employee is able to deliver a pleasant result; employees adding value for competitive advantage; and support of employees and

department in the process involved. The last two themes were grouped separately from each other: the company ensures employees safety through workshops; and additional customer satisfaction. To support the involvement of employees, there were three themes which were grouped as similar. Below is a quote from Participant C:

*“... Less supervision and monitoring is required on empowered employees from a quality point of view...”* - Participant C

*“... Every grey area is ironed out as all challenges are brought to every member's attention...”*- Participant D

*“... Companies gain advantage through individuals as people will have innovative ideas and different perspectives and skills...”* - Participant G

The implications of these quotes show that employees become more independent if they are well empowered with skills and given less supervision, together with all the challenges brought to every member's attention. This will result in the efficiency of company and results as employees will be able to meet the specific targets set, on time. The quotes also show that empowered employees are seen to reduce most errors encountered during TQM implementation. The other quote shows that if all challenges are brought together for every employee's attention, it will iron out every grey area. This means that all employees will be aware of any problem which might arise during the TQM process. Employees will be able to solve problems earlier and saving costs and time. The other quote shows that the company gains an advantage through individuals. This shows that individual contributions always have a positive effect on the company as employees deliver different innovative ideas and skills. Sharing ideas is seen as empowering employees to be knowledgeable of different jobs or tasks.

***Q14: Do you consult with employees on problem-solving on the implementation of TQM? If so, to what extent do employees influence TQM results?***

The following subsection looked at whether management consults with their employees on problem-solving towards implementation of TQM. In addition, the question looked at the extent to which employees influence TQM results. **Table 4.10** was produced showing the results on the question of consultation with employees for problem-solving.

**Table 4. 10 Emerging themes on consultation with employees on problem-solving**

THEMES	Consultation with employees on problem-solving	Sum	Frequency
	Training and education have a significant positive effect	1,1,1	3
	Different quality management concepts	1,1	2
	Consultation is done at management level	1,	1
	Employees make recommendations on alternative materials	1,	1
	Employees have practical solutions on practical problems	1,	1
	Use of quality circles encourages teamwork	1,	1

**Table 4.10** shows that managers have similar understandings of the company`s TQM implementation towards employees` problem-solving. As presented in the table, six themes were developed by the managers. The following two themes are related: training and education have a significant positive effect; and different quality management concepts. This shows that most managers agreed that if employees are trained for different skills, it will empower them for the TQM implementation. Another theme stated that consultation is done at management level, which means that managers are not involving many employees in problem-solving. The last three themes had similar concepts: employees make recommendations on alternative materials; employees have practical problems; and use of quality circles encourages teamwork. To support the theme which had the highest frequency, which says training and education have a significant positive effect, is a quote from Participant E.

*“... The results indicated that training and education have a significant positive effect on job involvement, job satisfaction, and organisational commitment...”* - Participant E

Another quote in support of problem-solving was from Participant D.

*“... It is wiser to be informed by the real people who encounter situations and it also builds unity and sound service delivery...”* - Participant D

The quotes show that training and education have a positive effect on job involvement in TQM implementation. The quote shows that if employees are frequently trained and educated, it will result in job satisfaction. In addition, organisation commitment results in fruitful results for

successful TQM implementation. Another quote shows that it is wiser to be directed or informed by the real people on the ground who encounters situations and problems on a daily basis. This will build company unity and result in sound service delivery.

***Q16: What are some of the effects of training on employee empowerment and TQM implementation?***

***Q17: How do you increase the knowledge of employee empowerment in the implementation of TQM?***

The following subsection looked at some of the effects of training on employee empowerment and TQM implementation. The questions contributed similar feedback from the participants. It also looked at how management increases the knowledge of employee empowerment towards TQM implementation. **Table 4.11** displays the results from participants on the effects of training on employee empowerment and TQM implementation.

Questions 16 and 17 contributed similar feedback from participants, though they were asked slightly differently by the researcher.

**Table 4. 11 Emerging themes on training and employee empowerment on TQM implementation**

THEMES	Training and growth of employees	Sum	Frequency
	Facilitated workshops	1,1,1,1,1	5
	Motivation of employees	1,1,1	3
	Individual responsibility	1,1	2
	Sharing of company goals and mission	1,	1
	Encourage teamwork	1,	1
	Employees are seen as a prevention of error	1,	1
	Delegation authority	1,	1
	Total customer satisfaction	1,	1
	Identification of skills	1,	1
	Screening of employees according to their skills	1,	1

**Table 4.11** shows that the managers have matching observations regarding the training and growth of employees for TQM implementation. As presented in the table, ten themes were developed by

the managers. The first three themes are grouped as similar, namely, facilitated workshops, the motivation of employees and individual responsibility. This clearly shows that managers are encouraging workshops and training for employees. In addition, managers encourage the motivation of employees as this helps employees to work independently. The second three themes can be grouped as similar: sharing of company goals and mission, encourage teamwork, and employees are seen as a prevention of error. These three themes show that managers encourage employee empowerment through different strategies. The other two themes, namely, delegation of authority and total customer satisfaction, were separated from each other. The last two themes, identification of skills and screening of employees according to their skills, can be grouped as similar. Supporting the theme of facilitated workshops, which had the highest frequency, are quotes from Participants C and G.

*“... Employees are given specialised training and carrying out statistical process control techniques...”* - Participant C

*“... Training is imperative but can be costly if the money is not spent wisely...”* - Participant G

The quotes show that employees are only trained in a specialised program to be launched. This means that there is no frequent or on-going training for employees due to limited resources and lack of funding. Furthermore, another quote shows that training is vital for the success of TQM though it can be costly if the money is not spent wisely.

Another quote supporting the theme of motivation of employees was from Participant E:

*“... Employees can be trained or sponsored with bursaries to diversify their knowledge in different fields before allowed to be involved in TQM implementation...”* - Participant E

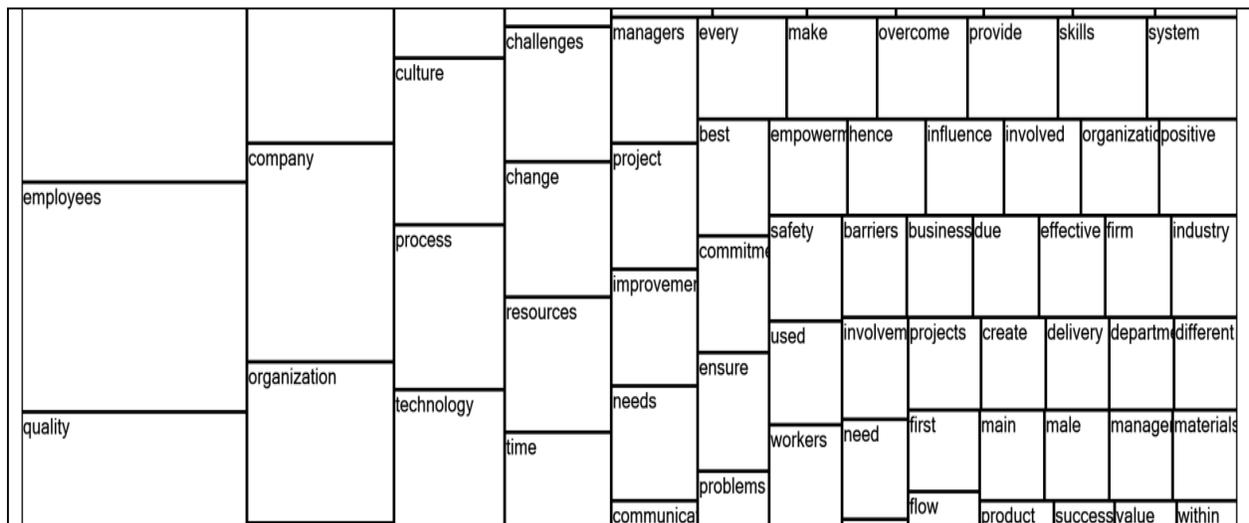
The quote shows that employees can be sponsored with bursaries to diversify their knowledge in different skills if financial resources are available. This quote shows that if employees are empowered through sponsorship by bursaries to diversify their knowledge, it will result in positive

fruitful TQM implementation. Employees will gain more knowledge about TQM and become experts in their specialised fields.

**4.6.3 Objective 3: To determine how the organisational culture influences the implementation of total quality management in a construction company in Zimbabwe.**

Objective three aimed at investigating how organisational culture influences the implementation of TQM in a construction company in Zimbabwe. To achieve this, four items from the construct of organisation culture towards the implementation of TQM were presented.

**Figure 4.8** presents the third objective of how organisational culture influences the implementation of TQM in a construction company of Zimbabwe.



**Figure 4. 8 Mind map analysis for determining the organisational culture**

The map shows how all the words in the mind map have been selected. The discussion below explains how to formulate sentences regarding different cultures in the organisation. The word organisation is in the third box in the second column of the mind map. The word organisation is placed in a larger box, meaning that it represents an important role in TQM implementation. The word culture is in the eighth box in the third column of the mind map. The graph shows that the word organisation was the main theme encompassing fifty-seven subthemes. These subthemes were constructed into sentences showing how organisational culture influences the TQM

implementation. The results show that adapting to company culture is a challenge for every manager. This is because every manager has to make or create ways to overcome many obstacles by providing skills development programs and running an effective system conducive to employee productive. The results also show that the quality of organisational process change for projects needs employee empowerment at its best. Hence, the involvement of employees in organisation strategy produces positive results. The results also show that organisational quality is affected by the use of suitable technology. The organisation needs to improve its resources when implementing TQM. Some of the resources which need to be improved relate to the modernization of technology, the commitment of employees and managers during the TQM implementation process, and safety and health. If the right resources are engaged in business, they reduce barriers encountered during this TQM process, hence the firm will become effective. The results also show that it is very important to adhere to time in work-in-progress projects. Managers need to manage the start and finish time by ensuring that projects and services are delivered on time, as targeted, for different departments. The use of within or internal communication is very useful for the formulation of organisational culture. This improves successful communication thereby increase employee performance and company productivity.

***Q18: Can you please explain the organisational culture of your company which is best suited to a TQM system?***

***Q21: What is the main type(s) of cultures your company uses to overcome the TQM implementation barriers?***

The following subsection looked at the organisational culture which the company uses. There were two questions asked differently but participants provided similar feedback. The section also looked at the company culture that the company uses to overcome the TQM implementation barriers. Table 4.12 shows the results from participants for the types of organisational culture used by the company for the success of TQM implementation.

Question 18 and 21 contributed similar feedback and insights from participants though they were asked slightly differently by the researcher.

**4.6.3.1 Emerging themes on types of organisational culture which is best for TQM implementation.**

This subsection looked at the types of organisational culture which was best for the implementation of TQM. It also explained the different organisational culture found in the company when implementing TQM. **Table 4.12** presents the results from the participants of how the employees felt should be the type of organisational culture which has to be used.

**Table 4. 12 Emerging themes on types of organisational culture which is best for TQM implementation.**

THEMES	Types of organisational culture	Sum	Frequency
	Use of clan culture	1,1,1	3
	Overcoming resistance to change	1,1,1	3
	Use of statistical process	1,1	2
	The best of hierarchical	1,	1
	Ensure consistency	1,	1
	The culture of meeting standards	1,	1
	Reliability in the performance process	1,	1
	A culture that focuses on producing quality goods and services	1,	1
	Customer orientation	1,	1
Continuous improvement	1,	1	

**Table 4.12** shows different views from managers on the type of organisational culture. Managers responded diversely on the best type of organisational culture which suits the TQM implementation. As presented in the table, ten themes were developed by the managers. These themes were developed according to how employees felt should be the best type of organisational culture to use with TQM implementation. The first three themes can be assigned as similar, namely, use of clan culture, use of statistical process and the best of hierarchical. The next theme, overcoming resistance to change, had three respondents with a similar understanding. The last themes, namely, ensure consistency, the culture of meeting standards, reliability in performance process, a culture that focuses on producing quality goods and services, customer orientation, and continuous improvement, can be grouped as similar. Supporting the highest frequency theme, use of clan culture, Participant G states:

*“... Clan culture is best suited for our company as it acts like a family-like or tribe-like type of corporate environment that emphasizes consensus and commonality of goals and values...”* - Participant G

Another supporting quote was from Participant B which supports the theme overcoming resistance to change:

*“... A company needs to overcome resistance to change and adaptability...”* - Participant B

In addition, Participant F says:

*“... A workforce that is not quality-oriented will resist changing to a quality conscious culture...”* - Participant F

The quote from Participant F shows that a workforce that is not quality-oriented will resist change to a quality conscious culture. From the literature, it means that the managers need to encourage a workforce that is able to handle quality issues accordingly, to avoid incurring extra unnecessary costs (Noe, Hollenbeck, Gerhart & Wright, 2017). If employees are not only quality-oriented but also encourage teamwork and unity, peace amongst employees, this creates humanity amongst employees and builds up the dignity of individuals (Noe et al., 2017).

#### **4.6.4 Objective 4: To evaluate how the use of technology is assisting the construction company in the implementation of total quality management in Zimbabwe.**

Objective four was aimed at evaluating how the use of technology assists the construction company in the implementation of TQM in Zimbabwe. To achieve this, about 6-item from the construct on information technology towards the implementation of TQM was presented in the interview guide. The following themes were presented in a table form. **Figure 4.9** presents a summary of the results of the fourth objective of how information technology assists the construction company towards the implementation of TQM in Zimbabwe.



*Q22: Is the technology you are using always updated to meet the TQM requirement for achieving successful results?*

*Q26: Are you providing your organisation with all modern technology for them to be able to implement TQM successfully? If so, please explain some of the types of technology used?*

The following subsection looked at how technology is being used by the company. The two questions were asked in a different way but resulted in similar feedback from the participants. It also asked whether the company was providing modern technology for employees, to enable them to implement TQM successfully. Table 4.13 shows the results from participants on the identification of technology used for the success of TQM implementation.

Questions 22 and 26 elicited similar feedback and insights from participants though they were asked slightly differently by the researcher.

#### **4.6.4.1 Emerging themes on types of technology used on the implementation of TQM**

This subsection looked at the types of technology used on the implementation of TQM. It also looked at the need and use of modern technology for the benefit of a successful TQM. **Table 4.13** present the results from participants on how employees and management felt would be the best way to improve the technology used for implementation of TQM.

**Table 4. 13 Emerging themes on types of technology used on the implementation of TQM**

THEMES	Identify technology used	Sum	Frequency
	New technology is in demand	1,1,1,1	4
	Need of funding	1,1,1	3
	Restructuring of company culture	1,1	2
	The technology is obsolete	1,	1
	Need for improvement	1,	1

**Table 4.13** shows that questions 22 and 26 produced seven themes from different managers. The results also show that new technology is in demand as it had the highest frequency of four. This high frequency shows that when implementing TQM, it needs modern technology and software to

achieve successful results. The next theme, the need for funding, had the second highest frequency. Two managers agreed that the company needs to classify the culture first before making any implementation. The last two themes, the technology is obsolete and need for improvement, can be grouped as similar themes. Lastly, two participants agreed on the theme restructuring of company culture. In support of the highest frequency theme, namely, new technology is in demand, Participant E said:

*“... There is a demand to implement new technology for the benefit of the firm and employees to produce effective and efficient results...”* - Participant E

Participant F offered a different perspective by stating that:

*“... Firstly, sort out the culture followed by defining and improving processes...”* - Participant F

Another high frequency theme, the need for funding, was referred to by Participants G and A:

*“... Funding would be needed for new software and technology. This will maintain enthusiasm through the organisation and identify effective ways to overcome barriers they face for the successful TQM completion...”* - Participant G

*“... Funding challenges to acquire new technology is the main obstacle...”*  
- Participant A

The quotes show that the company needed new technology for them to be able to implement TQM successfully and achieve better results. Another quote shows that the reason for not having modern technology was due to lack of funding to purchase and implement the new technology needed. New technology, it was believed, would benefit the company in different ways, for example, identifying errors at an early stage.

***Q23: Is there any free flow of quality management information between departments in your organisation?***

***Q24: How does your internal and external communication system work during the process of TQM implementation?***

The following subsection looked at whether there was a free flow of quality management information amongst departments. There were two questions asked in a different way, which produced similar feedback from participants. The subsection also looked at how the internal and external communication system worked during the TQM process. **Table 4.14** shows the results from participants for the flow of communication on TQM implementation.

Questions 23 and 24 contributed similar feedback and insights from participants though they were asked slightly differently by the researcher.

**Table 4. 14 Sixteen emerging themes on the flow of communication in the company.**

THEMES	Flow of communication	Sum	Frequency
	Limited resources	1,1,1	3
	Information is shared within same departments	1,1,1	3
	Some technologies are outdated	1,1	2
	Lack of internet connections (WIFI) facilities	1,1	2
	No free flow of electronic documents due to size	1,1	2
	Communication is intrinsic	1,1	2
	Communication is divided	1,1	2

**Table 4.14** shows seven themes from different managers. Managers have different and similar views on the flow of communication on the TQM implementation process. In the first two highest themes, respondents agreed on similar views. These two themes, limited resources and information is shared within the same department, can be grouped together as similar. This result shows that the company lacks the resources to provide for their employees, for the successful implementation of TQM. The other reason why the company chooses to share information only within the same departments is that there are no facilities like internet connection (WIFI). The next three themes, namely, some technologies are out-dated, lack of internet connection (WIFI) facilities and no free flow of electronic datasets due to size, can be grouped as similar. The last two themes, communication is intrinsic and communication is divided, can be grouped as similar. Quotes from Participants A and E show that resources to share communication are limited.

“... Communication is intrinsic and it focuses on internal communication mainly...”

- Participant A

“... Communication is divided according to the department that is assigned for, e.g. production department can share their communication with the quality assurance department...” - Participant E

The quotes show that communication in the company was limited and divided according to the assigned departments. The lack of availability of resources to share information within the company, such as internet connection (WIFI), obstructed the flow of communication. Another quote shows that communication was mainly focused on internal communication. This means that employees could not share their communication externally, to exchange ideas and innovative ways to improve their TQM performances.

**Q25: Do you think the way you are using information technology in your organization is achieving the intended results? Please explain your answer.**

The following subsection looked at the way managers use information technology to achieve the intended results. In addition, the question asked managers to explain further how the results were achieved if information technology is used. **Table 4.15** shows the results from participants for the *intended results of using information technology*.

**Table 4. 15 Seventeen emerging themes on the intended results of using information technology**

	<b>Intended results of using IT</b>	<b>Sum</b>	<b>Frequency</b>
<b>THEMES</b>	Need for mobile technology	1,1	2
	The company is facing a lack of resources e.g. internet connections ( WIFI) facilities	1,	1
	The talk of ISO9001 has not been implemented	1,1	2
	Some of the technology is outdated	1,	1
	Funding challenges to implement ISO9001	1,	1

**Table 4.15** shows five themes from different managers. The first four themes can be grouped as similar, namely, need for mobile technology, company is facing lack of resources, e.g. Internet connection (WIFI) facilities, the talk of ISO9001 has not been implemented, and some of the

technology is outdated. These four similar themes indicate that the company still faces a shortage of necessary resources for the successful implementation of TQM. The last theme, funding challenges to implementing ISO9001, had one participant. Quotes from Participants C and G underline the shortage of resources:

*“... IT systems are backward and there is a need to enhance IT systems, e.g. installation of ISO9001...”* - Participant C

*“... There is more information to be shared through internet across businesses, hence, the firm still face a shortage of resources for example use of WIFI and portable use of construction mobile phones...”* - Participant G

The quotes show that the IT used is backward; hence, there is a need to implement new IT systems – for example, installation of ISO9001 – for the benefit of successful TQM implementation. It also shows that there is much information to be shared through the internet across the business. In this modern world, most things are computerised; hence, a construction company definitely needs modern technology for their system structural adjustments and efficient communication.

***Q27: Do you always educate and train employees for them to have the greatest skills for TQM implementation?***

The following subsection looked at the education and training of employees, for them to have the greatest skills for TQM implementation. **Table 4.16** shows the results from participants on empowering employees through education.

**Table 4. 16 Seventeen emerging themes on empowering employees to have the greatest skills.**

THEMES	Empowering employees through education	Sum	Frequency
	Employees are trained when there is a new project	1,	1
	Company lacks a proper career structure	1,	1
	Training is not done periodically	1,	1
	Internal workshops assist some of the employees	1,	1
	Crisis in training	1,	1
	There is a shortage of skills	1,	1
	Fewer people are being trained	1,	1

Seven themes from different managers are shown on **Table 4.16**. The results show that the company is lacking proper training for TQM implementation. According to the company, every manager has a different view on how employees should be empowered. The first three themes, employees are trained when there is a new project, the company lacks a proper career structure and training is not done periodically, can be grouped together as similar. The last four themes, internal workshops assist some of the employees, the crisis in training, there is a shortage of skills, and fewer people are being trained, can be grouped as the same. A quote from Participant D, supports the view of a crisis in training:

*“... Employees are only trained when there is a new project to be launched. This is due to the costs involved as the company hires expertise to train employees...”* - Participant D

The quote shows that employees are only trained when there is a new project to be launched. This is due to the lack of funding. Most training involves excessive costs whereby the company has to hire some expertise to train the employees. The company lacks modern technology which should be helping some employees to figure out some solutions on their own without going for training as they are specialist skilled employees.



danger during implementation of TQM. Communication was also a barrier to the TQM process. This was due to limited resources available. Departments were communicating separately instead of among the entire organisation.

***Q28: Please explain some of the challenges you are experiencing in the implementation of TQM in your organisation.***

***Q30: How do these challenges arise during the process of TQM implementation?***

***Q31: Of the different challenges you are experiencing, which are the main ones that hold you back from implementing TQM?***

The following subsection looked at the challenges faced by the company during TQM implementation. Three questions were constructed and asked differently, but the participant's produced similar feedback. The subsection further looked at how these challenges arise during TQM implementation. Lastly, it looked at how the challenges experienced are the main ones which hold the company back from successfully implementing TQM. Table 4.17 shows the results from participants on the challenges experienced in TQM implementation.

Questions 28, 30 and 31 contributed similar feedback and insights from participants though they were asked slightly differently by the researcher.

#### **4.6.5.1 Emerging themes on some of the challenges faced in the company**

This subsection looked at some of the challenges faced in the company when implementing TQM. It also states the different challenges and how it impacts the success of TQM implementation. **Table 4.17** presents the results from participants on how the employees and top management discussed the challenges in the company encountered when implementing TQM.

**Table 4. 17 Eighteen emerging themes on some of the challenges faced in the company**

THEMES	Challenges experienced in the TQM implementation	Sum	Frequency
	Shortage of funding	1,1,1,1,1,1,1	7
	Outdated technology used	1,1,1	3
	Standards are outdated	1,1	2
	Difficulties in determining and estimating cost and price	1,1	2
	Shortage of materials	1,1	2
	Resistance to change	1,1	2
	Contractors and engineers not meeting the same goal	1,1	2
	Unpredictable delivery time	1,1,	2
	Poor planning	1,1	2
	Not able to retain the critical skill	1,	1
	Frequent training is required	1,1	2
	Employees tend not to enjoy teamwork	1,	1
	Failing to meet the needs of modern competitive business	1,	1

**Table 4.17** shows thirteen themes from different managers. The results show that the case company is facing numerous challenges during the TQM implementation process. The main challenge raised by most managers was a shortage of funding, which was rated by seven respondents. The following five themes can be grouped as similar; shortage of funding, out-dated model technology used, standards are out-dated, difficulties in determining and estimating cost and price, and a shortage of materials. The second group of themes, resistance to change, and contractors and engineers not meeting the same goal, can be grouped as similar. The third group of themes, unpredictable in terms of delivery on time, poor planning, not able to maintain critical skill, and frequent training is required, can be grouped as the same. The last themes, namely, employees tend not to enjoy teamwork, and failing to meet the needs of the modern competitive business, can be separate from each other. Quotes from participants on the shortage of funding, the theme mentioned most frequently, are below:

*“... Lack of funding shows the level of commitment and sincerity in terms of implementation...”* - Participant A

*“Funding problems... Labor force is willing and adaptable to difficult working conditions.”* - Participant G

*“Funding challenges result in engineering integrity and design flares in response to constrained availability of materials. Flexible industry in response to funding constraints.” - Participant E*

The quotes show that lack of funding affects the level of commitment during the TQM implementation process. This means that employees enjoy working for the company if they are motivated through monetary rewards and incentives, and encouragement. Shortage of funding shows that employees were forced to work under diminished resources, which then resulted in the failure of TQM. Out-dated technology was the most emphasized aspect that affects the TQM process. This is because developing countries are still to implement the use of ISO9001, as compared to developed countries that already use it. Furthermore, employees are forced to use the available material even if it does not meet the desired result, because of lack of funding to implement proper materials and equipment.

**Q29: How do these challenges mentioned above influence the implementation of TQM?**

The following subsection looked at how the mentioned challenges influenced the TQM implementation. **Table 4.18** shows the results from participants on the challenges that influence TQM implementation.

**Table 4. 18 Nineteen emerging themes on how the challenges influence TQM implementation**

	<b>How do the challenges influence TQM implementation</b>	<b>Sum</b>	<b>Frequency</b>
<b>THEMES</b>	The implementation is slow	1,	1
	ISO certification goal is taking long	1,	1
	Delays the project completion	1,	1
	Retards progress on TQM	1,	1
	Services and products might not match the customer requirements	1,	1
	The result will not be the best expected	1,	1
	It inhibits performance improvements	1,1	2

**Table 4.18** shows seven themes from different managers. The results show that the company is facing numerous challenges which influence the TQM implementation process. It also shows that

the company is facing numerous delays to complete the implementation of TQM. The following four themes, namely, the implementation is slow, ISO certification goal is taking long, delay the project completion, and retards progress on TQM, can be grouped together as similar. The next group of themes, namely, services and products might not match the customer requirements, the result will not be the best expected, and it inhibits performance improvements, can be grouped together as similar. All the above challenges affect TQM implementation and completion. The main challenge faced by the company, according to the above results, is the delay in delivery of goods and services on time. Participant G states:

*“... It delays the project completion and company reputation as the company sometimes loses bigger contracts...”* - Participant G

Another supporting quote on the theme with the highest frequency was from Participant F:

*“Fragmentation problems rise. It inhibits the performance improvements as this result in positive and negative sides. On the positive side, it is likely that flexibility to deal with highly variable workloads is provided”*. - Participant F

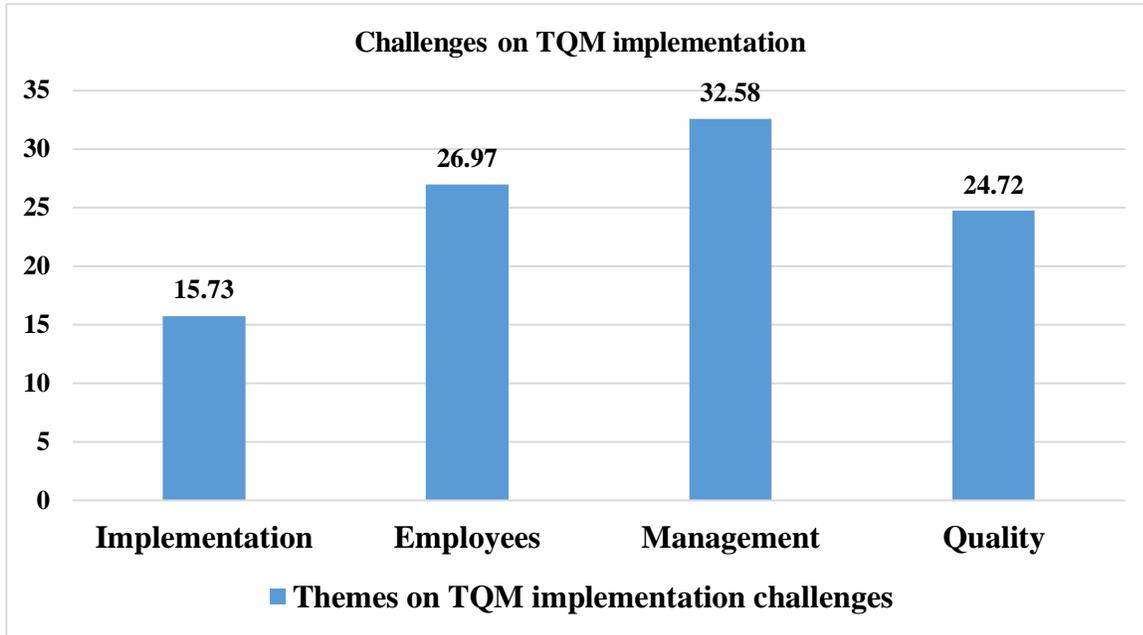
*“Fragmentation challenges. On the negative side, the extensive use of subcontracting prevents continuity of teams, essential to efficient working”*. - Participant E

The quotes show that the company faces project delivery delays and challenges to TQM services. This means that the company was unable to deliver the services on time as agreed between stakeholders. This was due to the lack of availability of materials and shortage of funding. The employees could not manage to complete the targeted projected as they did not have enough materials. Furthermore, employees were lacking frequent training on the use of TQM and its benefits, as well as the managers. The other quotes explained more about fragmentation challenges. These challenges have both positive and negative effects. The company is forced to concentrate more on survival than on future investment.

#### **4.6.5.2 Views on challenges which impact the TQM implementation process**

**Figure 4.11** represents the main challenges faced on TQM implementation in a construction company. The figure shows four main themes produced from the word cloud analysis, namely, implementation, employees, management and quality. These themes contributed most to the

challenges faced by the case company during TQM implementation. **Figure 4.11** shows that the implementation theme was the lowest percentage whilst management was the highest percentage in terms of challenges faced in the case company.



**Figure 4. 11 Challenges on TQM implementation**

**Figure 4.11** show that the case company experienced numerous challenges on the management level. The result shows the highest percentage of 32.48%. The company was facing many problems in managing their employees when it comes to change process management. This is because employees were resistant to change. Furthermore, top management was not very experienced in the new systems to be implemented. Therefore, top management faces challenges of hiring experts who can train their employees before launching a new system. In addition, funding was seen as factor faced by management. They need to be able to purchase enough materials, pay certain expenses and meet costs incurred. The next challenge faced by the case company was regarding employees (26.97%). This percentage shows that employees were not becoming incorporated through teamwork. The employees were mainly working independently and not sharing skills and ideas. This was causing challenges for problem-solving as some employees would not have any idea of what was taking place. Employees were resistant to change for a new system. This was caused by top management, who were not carrying out frequent training and education of

employees about the new systems and challenges. Nonetheless, employees were working with the available materials, though sometimes it would produce ineffective results. This caused problems because employees would not receive any incentives for a job well done as in most cases, they did not meet the targets. The other challenge faced by the case company was on the quality produced (24.72%), as seen in **Figure 4.11**. Numerous challenges on quality produced were mainly because of the equipment used, which was outdated, for example obsolete technology. The quality of results produced was poor due to a lack of proper materials. In addition, employees were forced to work under pressure to complete the tasks as sometimes the materials were delivered late because of the unavailability of funds. This has caused employees to do their tasks in a rush and with negligence; hence the service and product produced were not excellent. Lastly, the implementation theme was the lowest percentage (15.73%). This results show that the case company was not emphasizing implementation but rather management. This was due to a lack of funding and a shortage of proper equipment to use on TQM implementation.

**Q32: Please explain how you overcome some of the challenges listed above when implementing TQM.**

The following subsection looked at how the managers overcome some of the challenges listed above during TQM implementation. **Table 4.19** shows the results from participants on how managers try to overcome some of the challenges encountered in TQM implementation.

**Table 4. 19 Emerging themes on overcoming some of the challenges that influence TQM implementation**

THEMES	Overcoming some of the challenges	Sum	Frequency
	Encourage commitment	1,1	2
	Develop a culture	1,	1
	Trust and belief within management	1,	1
	The emphasis of the TQM process	1,	1
	Encourage focus groups discussions	1,	1
	Improve information flow	1,	1
	Encourage individuals' input	1,	1
	Continuous lobbying	1,	1
	Try to achieve more with limited resources	1,	1
	Encourage more research	1,	1
	Employees attempt to reach an agreement without dispute	1,	1

**Table 4.19** shows eleven themes from different managers. The results show that the case company tries to overcome some of the challenges using different approaches. Most managers encourage commitment from every employee and managers, to try to overcome some of the challenges encountered. The first group of themes encourages commitment, develop a culture, trust and belief within management, can be grouped together as similar. The second group of themes, namely, TQM process should be emphasised, encourages focus groups, improve information flow, encourage individuals' input, and continuous lobbying, can be gathered together as similar. The third group of themes tries to achieve more with limited resources, encourage more research and employees attempt to reach an agreement without dispute, can be grouped. Demonstrating the highest frequency theme, encourage commitment, Participant F said:

*“... Committed leadership is in need to drive forward an agenda for improvement. There must be a belief within management in communicating the cultural requirement and operational changes throughout the entire organization...” - Participant F*

A quote from Participant G supports the following grouped themes: emphasis on TQM process, encourage focus groups discussions, improve information flow, encourage individual`s input and continuous lobbying.

*“The customer drives everything in best companies. Activities that do not add value from the customer’s view are waste and are to be eliminated.” - Participant G*

The first quote shows that the case company was lacking leadership commitment. The quote goes on to explain that there must be a belief within the management in terms of communicating the cultural requirements. This will encourage employees to adopt a change when it’s necessary. The second quote shows that the customer drives excellent results in most companies. Therefore, customers have to be valued in everything the company decides to do. The company needs to follow up customer feedback after service offered and find out how to satisfy their customers if they weren’t happy.

#### **4.6.6 Objective 6: To examine the strategies used by the construction company to overcome some of the challenges faced in the implementation of TQM in Zimbabwe.**

Objective six was aimed at examining strategies used by the case company to overcome some of the challenges faced in the implementation of TQM in Zimbabwe. To achieve this, three items for the construct of strategies used towards implementation of TQM were presented in the interview guide.



**Figure 4. 12 Word cloud analysis for analysing the strategies used by the company**

The word strategy was seen in very small font size, coloured green. This means that the case company had few strategies to use to overcome the challenges they encountered. This was due to some of the challenges that could not be solved by the company alone but needed the country as a whole, as the country is in an economic and political crisis. Behind and around the word strategy there were about thirteen subthemes. These subthemes were used to form useful sentences to explain how the case company uses their strategies to overcome some of the challenges. The above result shows that managers are involved in providing workable strategies for the success of TQM. Managers need to provide materials for every department. This will help employees achieve better results as they have the necessary resources needed. The department needs time to improve work culture in the country. The work culture will enable effective communication for fruitful TQM implementation. The results show that managers need a workable system to make their strategy effective. In addition, employees need to be motivated to do their job well and rewarded for a job well done, so that they are empowered.

**Q33: What are the different strategies used to overcome some of the challenges faced in the implementation of TQM?**

#### **4.6.6.1 Emerging themes on different strategies used to overcome some of the challenges that influence TQM implementation**

The following subsection looked at the different strategies used to overcome some of the challenges faced in the TQM implementation. **Table 4.20** shows the results from participants on different strategies used by the company.

**Table 4. 20 Twenty-one emerging themes on different strategies used to overcome some of the challenges that influence TQM implementation**

	<b>Different strategies used by the company</b>	<b>Sum</b>	<b>Frequency</b>
<b>THEMES</b>	Training of employees in separate departments	1,1	2
	Convening frequent meetings	1,1	2
	Ensure adequate resources	1,	1
	Use of suggestion boxes	1,1	2
	Involvement of top management	1,1	2
	Motivate employees through incentives	1,	2

The different managers indicated six themes, shown in **Table 4.20**. The results show that the company tries to overcome some of the challenges using different strategies. The themes, employees are trained in separate departments, and the use of numerous meetings, can be grouped as similar. The next group of themes, ensure adequate resources, and use of suggestion boxes, can be grouped as similar. The last themes, involvement of top management, and motivate employees through incentives, were separate from each other. Participant G states:

*“... Employees are motivated through incentives and awards...”* - Participant G

The quote shows that employees have to be motivated through incentives and rewards if they meet the targeted delivery time. This will encourage employees to work harder and to think innovatively by finding solutions to the problems encountered.

***Q34: How effective are these strategies used by your organization?***

The following subsection looked at how the strategies used by the company were effective. **Table 4.21** shows the results from participants on consultation with the employees for problem-solving.

**Table 4. 21 Twenty-two emerging themes on the effective strategies used by the company in overcoming some of the challenges for TQM implementation**

	Different strategies used by the company	Sum	Frequency
<b>THEMES</b>	Employees are highly motivated	1,1	2
	Implementation is slow	1,	1
	Mostly effective	1,	1
	They give a temporary relief	1,	1
	They reduce risks e.g. duplicate errors	1,	1
	Managers put an effort on use of storytelling	1,	1

**Table 4.21** shows six themes from different managers. The theme which contributed the highest frequency of two was, employees are highly motivated. This means that the strategies which the company is using give employees a relief. The other participant mentioned that implementation is slow. Another participant mentioned that the strategies they are using are most effective. One participant mentioned that the company strategy reduces risks as they will not duplicate errors,

which can be costly if it is necessary to re-do the job. The last theme, namely managers put effort on the use of storytelling, was mentioned by one participant. The words of Participants F and E support the strategies given by the company theme; employees are highly motivated had the highest frequency of response.

*“... They give employees hope and motivation...”* - Participant E

*“... Employees will now know the best strategy to use right at the first time to reduce duplicate errors and saving redoing costs...”* - Participant F

The quotes show that some of the strategies give employees hope and motivation to continue working for the company. This means that the strategies have to be more effective for the benefit of TQM implementation. Other strategies give hope to the employees and equipped employees with some special skills to use when they face similar challenges. This means that employees will be able to solve some of the problems encountered as they now know the strategies to use.

***Q35: Could you recommend other strategies that could be used by other organisations in Zimbabwe?***

The following subsection looked at how the company recommends other strategies that could be used by other organisations in Zimbabwe for the success of TQM implementation. **Table 4.22** shows the different strategies used by the company.

**Table 4. 22 Twenty-three emerging themes on the other strategies which can be used to overcome some of the challenges**

	Different strategies used by the company	Sum	Frequency
<b>THEMES</b>	Introduce a TQM page within the organisation	1,1	2
	Create a TQM budget	1,1	2
	Introduce quality awards for teams and individuals	1,1	2
	Ensure unity of command	1,	1
	Outsource external trainers to conduct training	1,	1
	Encourage foreign exchange of skills	1,	1
	Provide the necessary safety and clothing	1,	1
	Ensure adequate resources	1,	1

**Table 4.22** shows eight themes from different managers. Most managers were in agreement that having a website for TQM would help employees to gain more skills. The first group of themes, introducing a TQM page within the organisation, creating a TQM budget, and introduce quality awards for teams and individuals, can be grouped as similar. The next second group of themes, namely, ensures unity of command, outsource external trainers to conduct training, and encourage foreign exchange of skills, can be grouped as similar. The last group of themes, provides necessary safety and clothing, and ensures adequate resources, can be grouped as similar.

Quotes from Participants F and G support the themes, provide necessary safety clothing, and ensure adequate resources.

*“By providing employees with enough necessary safety and clothing materials for the training.”* - Participant F

*“Always have a budget for TQM activities and projects.”* - Participant G

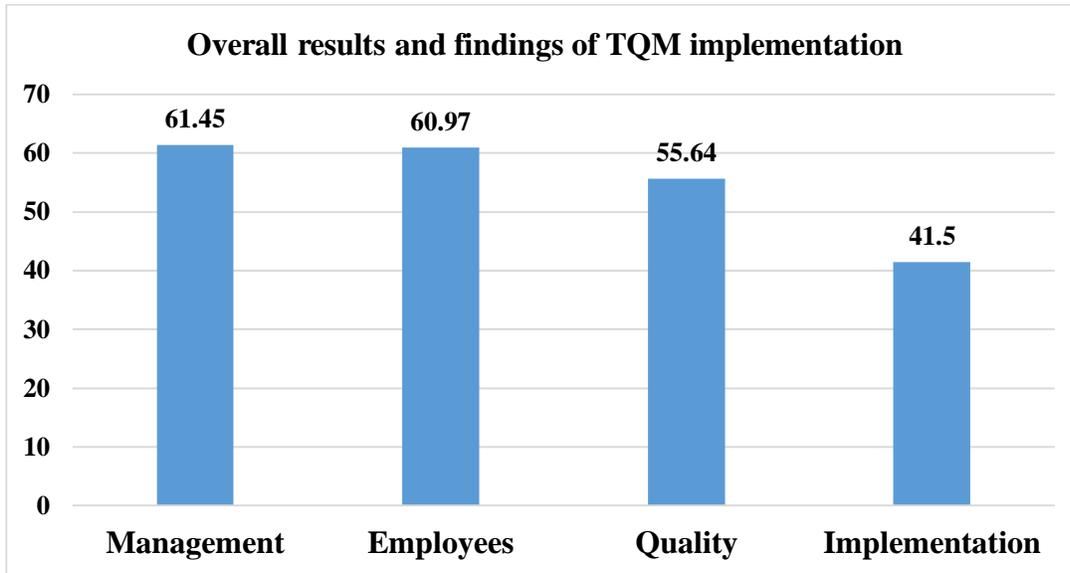
Other quotes to support the highest frequency themes, namely, introduce a TQM page and introduce quality awards, were from Participant A and Participant D.

*“Introducing a TQM page in internal organisation magazines.”* - Participant A

*“Create a website for the internal firm and make everyone be a participant of productive and innovative information.”* - Participant D

The quotes show that if all companies would strive to apply some of these strategies, it means the company will benefit more, with favourable results for TQM implementation. In addition, making the employees feel comfortable and removing any risks when doing their work are important. It is advisable that top management provides the necessary clothing. This will avoid injuries at work and employees will be protected and covered.

Below is **Figure 4.13** showing the overall results and findings of TQM implementation of the case construction company.



**Figure 4. 13 Overall results and findings of TQM implementation**

**Figure 4.13** shows four themes, namely, management, employees, quality, and implementation. **Management** had the highest percentage rate of 61.45%. This means that, according to this case company, they put more emphasis on management. It also means that the company strategy is primarily to manage employees and the company. The second highest percentage was **employees** rated at 60.97%. This means that senior managers are seen managing employees. In addition, the results of this case company show that employees are empowered with the necessary skills and employees are involved in the process of business tasks. The third highest percentage was **quality**, which was rated at 55.64%. This results show that quality was emphasised more in the case company. This may be due to lack of training and education, but also due to the obsolete technology being used. Lastly, **implementation** had the lowest percentage, at 41.5%. The result shows that this case company was not emphasizing the implementation of TQM much; instead it was emphasized management more, as it had the highest percentage. This was perhaps due to their company policies or lack of material and funding.

## **4.7 CHAPTER SUMMARY**

This chapter discussed the presentation of results and interpreted results from the participants. The chapter discussed Section A, which explains the demographics of participants, and Section B, which explains the results obtained from the participants. In the demographics of participants, age, gender, highest qualifications, years served in the company, and motivation of working for the company, was asked and described. Section B mainly presented the data and explained the diagrams produced after analysing coded information from the participants. The entire arrays of objectives of the study, from objectives 1 to 6, were discussed, aligning them with the results produced from the participant's feedback. Overall findings and results of TQM implementation of the case company were presented and themes were identified. The following chapter will present conclusions, recommendations, and areas for further research.

## CHAPTER 5

### DISCUSSION OF RESULTS

The previous chapter discussed the presentation of results. This current chapter will be discussing the results obtained.

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#### 5.1 INTRODUCTION

The previous chapter presented and interpreted the empirical results of the study. This chapter provides a discussion of the research findings in line with reviewed literature and the research objectives. Comparisons are made of the overall results and findings presented in the Figure 4.13 and graph analysis of chapter four, in terms of specific TQM theories. TQM theories by different authors have been put forward, as discussed in chapter 2, in order to identify conformities or contradictions between the research findings and extant literature. The results of discussions and comparisons to literature are arranged according to the research objectives.

#### 5.2 ADDRESSING THE OBJECTIVES

##### 5.2.1 Research objective 1: Evaluation of top management on the implementation of TQM

**Research objective one:** “To evaluate the influence of top management on the implementation of total quality management in a construction company in Zimbabwe.”

Research objective one focuses on the evaluation of top management’s influence on TQM implementation. The research findings reveal that top management’s involvement is important for successful TQM implementation.

##### 5.2.1.1 Conducive environment

The results show that top management provides a necessary conducive environment for their workers, depending on the availability of resources, regardless of the economic crisis faced in the

country. The company was able to control internal factors in their business while the external factors are difficult to control. The managers could not have much control over economic and political issues but could focus on managing their employees accordingly. This is seen in the result that the company placed most emphasis on managing the employees; the management theme with the highest frequency. Furthermore, results show that the company provided the resources they were able to, even if the resources were not meeting the requirements for successful implementation of TQM. Top management was seen to provide cheaper resources due to economic conditions, though they might not meet the excellent standard of the TQM implementation. Moreover, the results show that top management has constantly put effort into explaining TQM to different departments but sometimes employees were resistant to change and adapting to the new information system.

The observed results are in agreement with the literature – that senior management plays a leading role by making critical resources available, and establishing an organisation-wide quality policy that is well communicated to all stakeholders. In addition, top management establishes a quality management structure and manages the entire process through close monitoring and evaluation. This is supported by the need for a conducive organisational culture, a climate of open cooperation and teamwork among stakeholders in quality management (Sharp, Balzarova, Castka & Bamber, 2003). As cited by Zakuan et al. (2012), Deming, the quality guru, urges that leaders must establish a leadership team to guide the quality change process. From the results shown in Figure 4.13 of chapter 4, it shows that the company emphasises management rather than implementation.

### **5.2.1.2 Involvement of management**

The results show that there was a lack of top management commitment during the implementation process. The implementation process within the organisation required active top management support, participation, and leadership. Some top managers endeavoured to undermine the acceptance of the new system whilst others showed uncertainty towards it. According to the results produced, they show that employees expressed different views on management's influence on TQM implementation. This was because of either the different occupations of the individuals or the income or incentives employees receive.

*Management involvement is minimal. The issues of quality are usually delegated to the quality assurance department. There is some slacking as management does not do what they preach.*

The findings are supported by literature which argues that unfavourable or lack of management commitment can have a negative effect on the implementation of change initiatives (Hasan et al., 2013). With continued lack of senior management commitment, interest in new systems and processes was diminished. Within the organisation, management commitment had begun to decline throughout the implementation process. This was due to the cultural beliefs and stresses of funding shortages for the project. Effective knowledge formation and sharing need long-term obligation and care from top administration (Singh & Kant, 2008). In addition, the lack of top management involvement is found to be the most serious obstacle to effective TQM implementation (Choy & Suk, 2005).

Goll and Johnson (2007) posit that the top management is accountable for identifying organisational strengths and weaknesses and analysing the opportunities and threats in the external environment (Choy & Suk, 2005). Furthermore, Singh & Kant (2008) state that senior management commitment and participation should be demonstrated at all times. Baidoun (2003) developed a clear organisation mission, development of quality policies and values, and proper planning on quality management by creating a QMS that creates awareness and improves the implementation of QMS.

### **5.2.2 Research objective 2: Importance of employee empowerment in the implementation of TQM.**

**Research objective two:** *“To investigate how employee empowerment influences the implementation of total quality management in a construction company in Zimbabwe.”*

The aim of this research objective was to discover how employee empowerment influences the implementation of TQM. According to the findings, employees play an important role for the implementation of the TQM process.

### **5.2.2.1 Encouraging work independence and teamwork**

The results show that managers should encourage and show employees how to manage and work independently welcoming teamwork. By working in teams, it will make employees exchange ideas and skills; hence it will make the company effective and efficient (Hasan, 2013). This is supported in the literature by Arshida & Agil (2012), who state that by training employees, they will be empowered to take part in continuous improvement initiatives that are essential in TQM implementation. This will make employees confident to work independently as they will be highly skilled.

Therefore, employees at all levels are required to receive quality education and training (Singh & Kant, 2008). This education and training assists workers to understand their levels of responsibility over QM initiatives and their roles in implementing TQM. Furthermore, empowered employees are seen to add value for competitive advantage (Arshida & Agil, 2012). Managers should encourage employees to welcome teamwork. This will increase the contribution of different ideas by employees toward solving problems that arise. Furthermore, empowered employees contribute expertise as they are equipped workers who do the hands-on jobs (Hasan, 2013).

### **5.2.2.2 Training and growth of employees**

The results show that company culture is the main challenge affecting adaption of new systems by employees. This is because sometimes the beliefs and values of the company might not be understood well by the employees. Therefore, managers have to provide skills to overcome the challenges of adopting a new system to improve implementation of TQM. The results show that the involvement of empowered employees positively influences an organisation's result towards implementation of TQM. By sharing the company's goals and mission on TQM. Delegating authority and making employees responsible for the outcome. Participant D said:

*“I am not aware as I know that employees must be linked to do their work according to their obtainable skills. I don't understand how this is supposed to improve or manage our performance”- Participant D*

These findings are supported by the literature which states that employee commitment to change is critical given that managers only actually execute implementation activities (Hasan, 2013). Lack of employee participation could, therefore, hinder acceptance of an implementation process (Singh & Kant, 2008). It is difficult to measure intangible factors such as understanding ownership and involvement, yet they are important in providing commitment for implementation of TQM (Hasan, 2013).

From the results obtained in chapter 4, it shows that employees were resistance to change. This is shown by the result which was produced at a low frequency. Moreover, it has been argued that anybody trying to effectively strategies self-managing work teams is required having a strong focus on workers' participation (Arnold, Barling & Kelloway, 2001). While attaining empowered work teams can be challenging, it is, argued that employee teams add value to organisational achievement (Judith, 2012).

### **5.2.3 Research objective 3: How organisational culture impacts the implementation of TQM**

**Research objective three:** *“To determine how the organisational culture influences the implementation of total quality management in a construction company in Zimbabwe.”*

The purpose of this objective was to examine the organisational culture which influences the implementation of TQM. The objective was also to identify the relationship between TQM and organisational culture as this will impact on the TQM success. The results show that organisational culture is a challenging process as managers are resistance to change constantly. In addition, culture challenges every manager as they have to develop an organisational culture which is suited to TQM implementation, aligning with the company's mission and goals. To overcome the organisational culture, the results show that managers should provide the necessary skills to the employees for the new system to be implemented.

### **5.2.3.1 Use of clan culture**

The results show that employees agreed that the use of clan culture would benefit the success of TQM implementation. These findings are supported by literature that for an organisation to succeed in TQM management, it has to come up with a quality culture that integrates with other dimensions of culture (Walliman & Boujelbene, 2011). Organisational culture (OC) influences the implementation of the TQM procedures as it connects with quality practices and norms that workers are engaged in. An organisation needs to create an OC which employees understand and in which they are encouraged to participate in quality management programmes. Martins and Terblanche (2003) state that OC affects the employees' beliefs in implementing TQM. Furthermore, literature shows that culture affects understanding and realisation of TQM globally (Walliman & Boujelbene, 2011). Previous studies (e.g. Martins & Terblanche, 2003; Al-Jalahma, 2012) indicate that OC tends to influence the implementation of TQM outcomes. These studies concluded that a suitable policy for TQM implementation is required to shape the OC (Martins & Terblanche, 2003).

The people share mutual morals and philosophies in a clan culture (Judith, 2012). These values create a culture guide which organisation fellow's acts by providing a perception and by serving workers to determine what is in the best interest as combined (Walliman & Boujelbene, 2011). Persons that follow the rules within the group are remunerated (Martins & Terblanche, 2003). However, violators may experience social distancing (Walliman & Boujelbene, 2011). Furthermore, this is also called social control (Judith, 2012). In this case company, managers experienced the OC as it is difficult to change within a short period of time. The managers felt that it would be better if the company allowed the use of a clan culture, which would involve every employee's input for the benefit of TQM implementation.

### **5.2.3.2 Overcoming resistance to change**

*Employees tend to argue more when the company reaches this stage as others might not accept the values of other employees. "Ethics of the firm seems to be ignored and people rule according to their feelings not aiming the company's missions and visions."*

This quote is supported in the literature: an organisation needs to create an organisational culture which employees understand and they should be encouraged to participate in quality management programmes. Oakland (2011) posits that organisational culture affects the employee's beliefs in implementing TQM. Furthermore, the literature shows that culture impacts the understanding and realisation of TQM globally (Martins & Terblanche, 2003). These arguments conclude that a suitable policy for TQM implementation is required to shape the organisational culture (Martins & Terblanche, 2003). However, although TQM needs profound change, an organisation cannot be expected to change culture overnight. Culture changes through a result of doing the correct things for a period (Oakland, 2011).

#### **5.2.4 Research objective 4: The use of communication and technology in assisting the implementation of TQM**

**Research objective four:** *“To evaluate how the use of technology is assisting the construction company in the implementation of total quality management in Zimbabwe.”*

The research objective concentrated on the ways communication and technology is used to assist the company in the implementation of TQM. This objective was used to find out how communication flows during TQM implementation. In addition, it also looks at the type of technology used and if it is adding value to the success of TQM implementation.

##### **5.2.4.1 The demand for new technology**

The results show that there is a very limited communication system in the organisation. This is because communication is confined to departments. In addition, limited resources and obsolete technology are a hindrance towards successful communication. Funding challenges delay the implementation of modern technology which can benefit the process of implementing TQM. Technology plays a critical role in the implementation of TQM. The results show that quality and implementation work together for successful TQM results. The issue of funding is seen as a hindrance in the implementation of TQM as some projects rely on government funding, which in most cases is not provided or paid on time. The use of technological resources in the project

increases productivity. The results also show that the organisation is experiencing communication problems as workers need management's decision on providing quality project materials. Furthermore, the organisation shows that the managers' communication needs improvement for the project to be successful.

*“There is still a shortage of contemporary technology.” The company tries to work with what they have though sometimes it produces unsuccessful results.*

This statement is supported by the literature whereby the use of IT has brought immense progress in service levels and increases the competitive position of organisations (Antony, Leung, Knowles & Gosh, 2002). In general, technology is a much effective for integrating internal and external processes. It is usually expected that high-technology (high-tech) companies achieve improved results in terms of efficiency, quality, and general effectiveness than in low technology (low-tech) organisations (Antony et al., 2002). High-tech organisations are usually described as those utilising a high level of technology in their processes, and these kinds of companies are found in developed countries. Low-tech organisations utilise a lower level of technology and these kinds of companies are found in developing countries.

#### **5.2.4.2 Need for funding**

The selected company results show that they are in need of funding to buy new technology, which will assist them in TQM implementation. The results show that lack of funding is delaying the completion of most projects on time. Furthermore, if the new technology is implemented, it will add value and empower employees with the highest skills required for successful implementation of TQM.

*“Funding and access to the latest gadget is the hindrance.”*

This statement of funding challenges is supported by Sadikoglu and Zehir (2010) who state that investing resources in information, process supervision and statistical control response improves operational presentations. Therefore, client results, competitive benefit, financial presentation, innovation performance, and overall performance have been all discovered to revolve around adequate funding (Phan et al., 2011; Kim et al., 2012; Zehir & Sadikoglu, 2010). It has been shown

that, mainly in developing countries, they need funding from Western or developed countries or governments for their projects in order to build their national economies (Zehir & Sadikoglu, 2010).

#### **5.2.4.3 Flow of communication**

The case company results show that the flow of communication is divided according to departments. This is due to limited resources of internet connections (WIFI) and mobile construction technology.

*The communication system is divided accordingly to the department that is assigned, for example. “Production department can share their communication with the quality assurance department only” and “quality communication is mainly between the operations department and the lab” (Participant C).*

The results show that most participants’ state there is limited communication. Fear results in employees being reluctant to voice their opinions and procedures, or question policies and decisions. According to Deming’s theories, to “drive out fear”, there is a need for change in management behaviour. This is supported in the literature which argues that internal and external communication is important in introducing quality programmes (Welch & Jackson, 2007). It permits all stakeholders to have an in-depth understanding of quality and its management. Therefore, top management need to translate quality information in an understandable form for all stakeholders to understand. Previous studies have shown that organisations with positive communication and quality alertness supported by active top management are likely to succeed in the introduction of ISO 9001:2000 (Ryssel et al., 2004). Baidoun (2003) mentioned that clear and consistent communication on quality programmes, mission and objectives at every level of the company are keys to successful introduction of TQM. Furthermore, Figure 4.13 in chapter 4 shows that the company was not prioritising quality service as they did not have the resources needed.

## 5.2.5 Research objective 5: Challenges faced by the construction industry

**Research objective five:** *“To analyse the challenges faced by the construction company in the implementation of total quality management in Zimbabwe.”*

This research objective focused on the challenges which the company encountered during the implementation of TQM. The results from Chapter 4 show that the case company faced many challenges during the TQM implementation process. Some of the challenges were shortage of funding, employee’s resistance to change, delay in delivering key resources, delays on project completion, and lack of commitment to develop a culture of quality.

### 5.2.5.1 Shortage of funding

The case company results show that there is a lack of funding to implement new technology and adequate resources needed for the achievement of TQM implementation. Overall results of Figure 4.13 of chapter 4 show that the quality management theme was very low at 55.64%. This means that everything which comes with quality, services, and products needed to be supported with funding to advance the service and quality of products.

*“Construction in developing countries often fails to meet the needs of modern competitive business in markets, and rarely provides the best value for clients and taxpayers.”*

This statement is supported by the literature as these challenges arise from economically disadvantaged countries which are suffering from economic and political issues. The challenges begin to arise from improper attitudes and perception of management and employees. In addition, inadequate resources and lack of training as well as inappropriate environments affect implementation of TQM (Ahuja & Khamba, 2008). There is much evidence in the literature of unsatisfactory results in many companies that attempt to implement TQM due to problems and challenges in implementation (Kaura & Datta, 2012). Therefore, to achieve better results, the company has to offer frequent training and education to their workers. Hence, funding problems still impact on the efficient running of workshop training programs.

### **5.2.5.2 Resistance to change**

The results show that the case organisation faced challenges of resistance to change. This is shown in Figure 4.13 of chapter 4. From the results, it shows that the company was also not focusing mainly on implementing TQM but rather on general management of business operations. There was a shortage of the necessary resources to use for the formation of TQM strategy. In addition, the results show that the organisation takes a longer time to deliver customers service and products. This is due to managers who have to provide the necessary skills – for example, training and education – so that employees are skilled and able to overcome the difficulties of a new system.

*“We are facing resistance to change, the system is out-dated and the standards are obsolete.”*

This statement is supported from the literature: the achievements of an institution depend on its QMS, on how it identifies, classifies, analyses and reacts to changes in quality necessities (Zakuan Muniandy, Saman & MdArif, 2012). However, Kasongo and Moono (2010) highlighted that executive strategy is one of the important factors in the introduction of quality systems.

### **5.2.5.3 Crisis in training and education**

The case company results show that the use of training is affected by lack of funding. There are construction standards which need to be achieved through training and education processes. The results also show that the construction designs need the support of workshops for excellent performance in TQM implementation. Cultural issues need to be addressed through training and educating employees. Furthermore, culture cannot be changed over a short period of time but needs sufficient time and support and training of employees about the new changes.

*“There is no proper planning, funding not adequate (**crisis in training and education**), and commitment is questionable as some employees tend not to enjoy teamwork but rather independently.”*

These findings are supported by literature which shows that employee empowerment and participation is effective and efficient if workers are provided with accredited official training and education in quality management (Baidoun, 2003). The excellence of quality starts and ends with

training (Reed, Lemak & Mero, 2000). McAdam and Kelly (2002) posit that training and growth are the main mechanisms of TQM initiatives. Organisations that create learning programmes report visible improvements in their worker's abilities on quality implementation (Cebeci & Beskese, 2002). Given some of the levels of resources provided for the implementation of TQM, employees at each level of the organisation still lack the necessary knowledge and skills required. The approaches used to inform employees of their responsibilities under the new system have a limited impact as the top management did not address the simultaneous need for change.

Most managers are seen appreciating the objectives behind and benefits of the new approach. Hence, they find it hard to champion its use when employees are not motivated and inadequately supported. It becomes expensive as training and education is costly, though it benefits both employee and the company with the results delivered. Findings by Reed et al. (2000) identified training as a unique critical factor in the fruitful implementation of TQM. The implementation of TQM requires adequate, relevant employee skills and knowledge of quality which can only be achieved through continuous training (Jamali, Ebrahimi & Abbaszadeh, 2010). In addition, training employees empowers them to take part in continuous improvement initiatives that are essential in TQM implementation (Reed et al., 2000). Therefore, workers at every level must accept quality education and training. This assists workers to understand levels of QM initiatives and their roles in implementing TQM (Arshida & Agil, 2012).

#### **5.2.5.4 Discussion for challenges with reference to the Zimbabwean context**

Most companies in Zimbabwe, including the construction industry, are faced by challenges of hyperinflation which has no upward limit (Johnston, Bernstein, & de Villiers 2008). In addition, violence was at its most powerful level following the March 2008 parliamentary elections and presidential run-off (Misago, Landau & Monson, 2009). Furthermore, migration to neighbouring countries is on the rise. In the same period, South Africa has been experiencing xenophobic related violence (Johnston et al., 2008).

#### **5.2.6 Research objective 6: Strategies used to overcome some of the challenges incurred**

**Research objective six:** *“To examine the strategies used by the construction company to overcome some of the challenges faced in the implementation of total quality management in Zimbabwe.”*

This research objective focused on the strategies the company has used to overcome some of the challenges they have met during implementation of TQM. The results show that employees can be trained separately according to their area of specialisation. This will not create confusion in terms of empowering employees with skills. The case company results also show that employees are motivated to do their jobs.

#### **5.2.6.1 Employees are trained separately**

The case company results show that training employees according to their areas of specialisation will add value to employee's skills and the delivering of successful TQM implementation results.

*.....We always try to have numerous meetings and training and the use of suggestion boxes so that we clarify problems earlier and make sure every employee suggestion is heard.*

The results show that executives need to encourage proposals from their employees in order to create a favourable working environment for all individuals. This will result in producing honest comments made without fear of punishment. Moreover, managers should implement a process for taking action on those ideas. Dissatisfaction of management's action on suggestions within a reasonable time discourages employees from spending time preparing their proposals. Furthermore, credit and reward must be extended for valued proposals made to the organisation. It is useful for a firm to conduct a survey for employee attitudes determination about QM, safety and working conditions.

This above statement is supported by the literature which says that success of an institution depends on its QMS. The study describes the identification, classification, analysis and response to changes in quality requirements (Pradhan, 2018). Kasongo and Moono (2010) highlighted that management strategy is one of the critical factors in executing quality systems. The study shows the importance of training employees separately and how it would benefit the company and individuals.

### **5.2.6.2 Effective strategies and employee motivation**

The results show that employees need to be motivated through incentives. These incentives can be awards or be in a form of promotions or increases in employees' salaries. This can be an effective strategy for the success of TQM implementation and the benefit of employees as well. If employees are encouraged in the work they do, it shows that managers have motivated the employee. Sometimes they are effective. If the resulting progress did not meet the company strategy in terms of profitability or delivery, *“managers try to use storytelling as much as possible to bring humanity to the company and to help employees understand the relevance of your strategy and real-life examples of progress and shortfalls.”*

The above quote is supported in the literature whereby the work environment and culture of a company should drive the employees toward continuous improvement. Stritikus & Nguyen (2007) states that strong management participation, empowerment and client focus are all crucial to the company. The attitude of employees has positive influence on their growth (Codman, Deming & Donabedian, 2014). According to Stritikus and Nguyen (2007), the commitment to quality of individuals involved brings continuous improvement. Therefore, any company trying to introduce quality mechanisms must seek to advance employee commitment and cooperation fairly, rather than just seek obedience (Wilkinson & Dale, 2002). Furthermore, a “no-blame” culture discourages employees from covering up difficult areas (Codman et al., 2014).

### **5.2.6.3 Employment involvement**

*“Create a TQM website for the internal firm and make everyone be a participant of productive and innovative information.”*

This statement is consistent with which state that employee are satisfied and willing to participate in TQM programs in the organisation as it makes them quality products for the organization.. TQM considers the employees as internal clients who exchange information and services. As a result, employers should try to satisfy their clients. This is achieved through training and management. Effective implementation of every strategy increases if the business participants are devoted to a shared dream (Basu & Bhola, 2015). From this, it is understood that employee growth is primary

to the achievement of a quality-focused organisation. Thus, service staff affiliates are required to be soundly trained and to be constructive in their attitudes toward work, for excellent service (Patil, Ullagaddi & Jugati, 2012).

#### **5.2.6.4 Country specific context relating to research objectives 5 & 6**

Basu and Bhola (2015) state that management is mainly faced with the challenges of material absence, for example, steel, bricks, cement. Furthermore, there are also challenges of expert labour resources (Enhassi, Mohamed & Abushsban, 2009). These deficiencies impact unfavorably on most projects. The construction industry in Zimbabwe has not recovered from the economic hardships (Enhassi et al., 2009). Lengthy queues for bricks and cement are testimony to this. The lengthy waiting periods for local and shipped materials has had an important impact on cost and project periods. Other projects are delayed due to the lack of bricks. Bureaucratic procurement processes further compound the difficulties (Basu & Bhola, 2015). The lack of liquidity affects the financing abilities of customers and contractors. Weak cash flow, suspension of pre-purchases and pre-payment on government projects further worsens the problem. Deferral by government to honor interim claims leads to business distrust and such inconsistency negatively effects project completion time for public sector projects. Similarly, differences as to choice of work and materials' requirement have affected project costs and outworker preparation. These findings reflect a lack of skilled labour and materials in the construction industry (Enhassi, et al. 2009).

### **5.3 CHAPTER SUMMARY**

The chapter presented a discussion of findings concluded from responses given by the participants. The findings were compared with other research of a similar nature conducted in the past. It is clear that the study's research objectives have been achieved and were in some cases supported by literature. However, in some instances, they contradicted past outcomes, providing the basis for future research to explore contradictions where they exist. In the following chapter, recommendations and conclusions about the implementation of TQM in a construction industry based on the study's results are presented.

## **CHAPTER 6**

### **SUMMARY, CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH**

The previous chapter has discussed the results obtained. This current chapter will be discussing the summary, conclusions, recommendations and areas for further research.

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#### **6.1 INTRODUCTION**

The previous chapter presented, interpreted and outlined an analytical discussion of the research findings in conjunction with the research objectives of the study. The research purpose was to get a deeper understanding of how TQM is applied in business as a strategic tool to promote quality of service and products in the construction sector of Zimbabwe. Six research questions were utilised to address the level to which TQM is implemented in the construction industry. This chapter presents a summary, conclusion, recommendations and areas for further studies.

#### **6.2 SUMMARY OF THE STUDY**

##### **6.2.1 Chapter 1: Introduction and background of the study**

Chapter one provides an introduction of current TQM from a global perspective, narrowed down to the local level in a case study. This was followed by the background and context of study where the concept of TQM was explained to have developed over many decades, years ago. Konecny and Thun (2011) described different meanings of TQM. They defined TQM philosophy and gurus of TQM. The Zimbabwe construction industry still has low levels of TQM implementation. While employees might have knowledge about TQM, the country still lacks sufficient useful resources to adopt TQM practices. This is mainly due to a lack of funding as the country suffers severe economic hardship. The level of TQM implementation was found to be not very successful as organisations needed to consider and be consistent in allocating sufficient funding for TQM practices. TQM benefited the construction industry by increasing the country's GDP (Porter & Kramer, 2019). Organisations need to allow sufficient time for training and education programs that work towards TQM implementation.

The chapter also discussed essential issues for organisations to consider, particularly in areas which lack TQM implementation. Successful TQM is mainly found in developed countries with stable political and economic environments. Temtime and Solomon (2002) posit that governments of such countries support the creation of TQM. However, a review of the TQM level of application principles in the construction industries of other countries shows that levels differ. The Japanese construction industry introduced TQM in 1970, while US and European construction industries began to develop an interest in TQM in the late 1980s (Lau, Tang & Li, 2015). Generally, in developing countries, the level of application is much lower compared to developed countries. This is because in developed countries, clients continually demand improvement in the overall value of their investments in construction projects.

Most previous research studies in TQM cite that successful TQM is based in developed countries. The quality gurus have presented their thoughts based on individual experiences in developed countries, primarily in the USA, Europe, and Japan. However, mandate for TQM is no longer the privilege of developed world. Certain developing countries are managing to deal with TQM related challenges and break into new markets across the world (Temtime & Solomon, 2002). There is a lack of information, however, about the nature and phase of TQM implementation in some regions of the world, including Asia, South America, Africa and the Middle East (Sila & Ebrahimpour, 2003). This study is an attempt to lessen this absence of information on TQM in developing countries.

The chapter provided a layout of the research problem, pointing out research objectives and research questions. The justification of the study is important because it looks at TQM as strategic business concept that encourage production of quality products and better services to the public. The study sought to bridge the gap in strategic business management where TQM worldwide has been associated with organisations in developed countries over the past decades. The study is also guided by TQM theories that focus on sustainable practices.

### **6.2.2 Chapter 2: Literature review**

The main purpose of chapter two was to explore literature on TQM. The chapter provides background information and motivation for why organisations in developing countries are

implementing the TQM concept. The chapter begins by mentioning theories that give rise to TQM ideas which are adopted by the business worldwide. The chapter also explored what drives businesses to integrate TQM concepts into their organisational policy. Furthermore, various approaches were outlined and explained in detail, followed by challenges that organisations have incurred during the TQM process and strategies they have used to overcome some of the challenges. The framework was used as a strategic tool to consider elements of a successful TQM. These elements were discussed in detail. TQM was explained from both a global and a single economy perspective, with the study of the construction industry in Zimbabwe.

### **6.2.3 Chapter 3: Research methodology**

This chapter discussed the research methodology. It identified four research paradigms and explained that the study adopted an exploratory qualitative case study research design. The study targeted all managers employed by a specific construction company; hence a census research approach was used. The target population was fifteen managers, and only seven managers were able and available to contribute to the study. The study site population is located in the capital city of Zimbabwe, which is Harare. Since the study adopted a census research approach, no sampling strategy was required. Primary and secondary data was conducted in the study. Primary data was collected using an in-depth interview guide. Data analysis was conducted using NVivo software and content analysis. Data quality control, which includes the validity, reliability, and trustworthiness of the research, was also discussed as well as ethical considerations.

### **6.3.4 Chapter 4: Presentation and discussion of results**

This chapter presented, interpreted and outlined the logical discussion of research findings according to the identified aims of research study. The response rate from the fifteen targeted managers was 46.6%. This low response rate was attributed to the timing of data collection, which was between December 2017 and February 2018. These targeted managers are people who plan their life ahead. Therefore, most of them have a busy schedule to attend and had a lot of travel commitments as it was approaching the festive season. Furthermore, some managers had resigned their work with the company as they sought greener pastures due to the economic conditions of the country. In addition, since participation was voluntary, the researcher continuously made an effort to reach some of the research participants, even after many failed scheduled meetings. The

chapter was divided into two sections. Section A dealt with the demographic profile of respondents and a brief description of the organisation. Section B discussed the qualitative insights derived from in-depth interviews of the study. The results were presented with the aims and focus of the study. The subsequent sections outline conclusions of the project.

## **6.4 CONCLUSIONS OF RESEARCH OBJECTIVES**

### **6.4.1 Objective one:**

**To evaluate the influence of top management on the implementation of total quality management in a construction company in Zimbabwe.**

The research results show that top managers influence the implementation of TQM. The results show that there was a lack of top management commitment in the TQM process. The findings were that some top management undermined the acceptance of the new system; hence, there was no influential encouragement to mentor managers about the installation of a new system. The top managers find it difficult to understand the basics of the new system in a short period of time. This had a negative impact on the managers as they were not able to be taught enough knowledge of the new system. The company also lacked modern technology which could have assisted the managers in their training of the TQM implementation. Additionally, there other different benefits availed by top managers which are beneficial to employees. These benefits influence their understanding and engagement with TQM implementation in their business activities. The findings indicated that the case organisation was lacking sufficient funding as the country suffers from harsh economic conditions. Furthermore, the results show that the involvement of top management for frequent training and education would assist employees to resistance to change.

### **6.4.2 Objective two:**

**To investigate how employee empowerment influences the implementation of total quality management in a construction company in Zimbabwe.**

The results show that empowered employees increase competitive advantage. This is because empowered employees bring in different ideas and suggestions for the success of TQM. Mostly, this is because employees do the hands-on jobs and experience everything during the TQM process. Employees are seen as resistance to change to a new system. The findings were that managers need to provide the best skills for employees' empowerment. In addition, the

involvement of employee's results in increased productivity to the organisation. It also shows that lacking funding results in unsuccessful TQM. However, the organisation needs enough funds and budget for successful TQM implementation. This will help managers to reward employees individually or for teamwork accordingly, for their job well done, by remunerating them with worthy incomes and wages. This will make employees feel motivated to continue working for the company as the managers issue different incentives to employees for a job well done.

#### **6.4.3 Objective three:**

**To determine how the organisational culture influences the implementation of total quality management in a construction company in Zimbabwe.**

The results show that organisational culture is the main challenge in TQM implementation. The findings showed that managers are faced with resistance to change regarding the new system. Every manager should make an effort to try to overcome this by providing the necessary skills, which can be either training or education, for the benefit of a new system. It also shows that company culture is a process which doesn't change overnight but needs funding for it to work, by providing necessary resources, for example, modern technology. Hence, the organisational culture affected the implementation of TQM due to employees failing to divide themselves into different departments which aligned with their skills. Very few employees were able to enable to adjust to the clan culture which was selected by the organisation. Providing skills and modern technology will benefit the employees immediately and help with ensuring a successful TQM process.

#### **6.4.4 Objective four:**

**To evaluate how the use of technology is assisting the construction company in the implementation of total quality management in Zimbabwe.**

The results show limited communication in the organisation, because of limited resources to share efficient and effective communication. Furthermore, employees were not trained enough on the importance of sharing information, how it would improve productivity, and how it would allow early correction of any defects areas. The result also shows that the organisation used obsolete technology due to the lack of funding to implement modern systems. Therefore, the organisation has used what they have, even though sometimes it was not giving them successful or efficient

results. It also delays the process in terms of delivery of services and products, due to the numerous times they have had to repeatedly start the process.

#### **6.4.5 Objective five:**

**To analyse the challenges faced by the construction company in the implementation of total quality management in Zimbabwe.**

The results show resistance to change challenges faced by the case company. This was sometimes due to ignorant managers who did not have enough knowledge of the new system. Therefore, the managers did not have the power to encourage employees to do the right thing, either by training them and/or correcting them earlier. In addition, a shortage of the necessary resources and materials, for example, modern technology or mobile telephones, resulted in unsuccessful TQM implementation. There was a massive delay in delivering customer service and products. This was due to poor planning and delays in completing the service or product on time. Further, managers were not providing the necessary skills, for example, training and education, so that employees are empowered and skilled to overcome the difficulties of a new system.

#### **6.4.6 Objective six:**

**To examine the strategies used by the construction company to overcome some of the challenges faced in the implementation of total quality management in Zimbabwe.**

The results shows strategic employee involvement in TQM programs is important in producing quality products and services to customers. However, TQM could be used to motivate employees thereby increasing their performance and productivity of the organisation. This is because employees be introduced to TQM training programs that enhance their performance and improve TQM processes in the organisation. Despite TQM problems, the organisation benefited from using numerous meetings and suggestion boxes as other strategies to overcome some of the challenges. Some participants suggested that frequent workshops would result in the successful delivery and positive results for the company.

### **6.5 RECOMMENDATIONS**

Recommendations need specific actions to be taken with regard to policy practise, theory, or subsequent research. They are specific suggestions that are made regarding further research on the

topic. The researcher has generated following recommendations with the help of the case company findings:

- ❖ It is highly recommended that the case company should implement quality management programs such as ISO9001. This will set an excellent platform to move towards TQM. For TQM or quality management programmes to be effective and successful, it is required that continuous training is offered to all levels of the personnel.
- ❖ **Top management** should involve themselves in the TQM implementation process. Top management are the leaders whom employees have to follow or listen to. In addition, top managers must always assist and provide the necessary resources for TQM programs. They must lead by example and show employees the benefits of producing a successful result. This will increase the competitive advantage and build the reputation of the company. Prior to management commitment, managers need to understand TQM. When management is committed to TQM, essential resources of time and money to permit improvement will then be provided. Top management needs to draft vision and mission statements, which will summarise the company`s philosophy with emphasis upon client`s quality satisfaction.
- ❖ **Empowered employees** are seen as an advantage to a company as they assist the company through producing efficient and effective results. Employees should be frequently trained and educated for every newly implemented system. Whenever there is a new system, it is known that employees are resistant to change. Therefore, it is urged that employees be trained to adapt and cope with the change. Top managers should encourage teamwork amongst employees; this will benefit everyone involved as people might have different views. This will avoid multiple errors which might be incurred and costs can be saved. A happy employee is seen when motivated through incentives, for example, improved remuneration and wages, by giving individual and team awards for the best result produced on time. Finishing time is a very important factor in the construction industry as delays affect all parties, for example, contractors, clients, and engineers. Employees are resistant to change for a new management system. This is because sometimes top managers sow fear amongst employees. Employees should be allowed to suggest any ideas that will benefit the company in the TQM implementation.

- ❖ It is said that **organisational culture** should match with the company`s mission and vision. Therefore, managers are not expected to derail introduction of TQM policy in the organisation culture. Top managers should train employees to understand that organisational culture does not change suddenly, but it`s a process which has to be catered for. There are different views, beliefs, and norms amongst different individuals about the organisational culture and ways it does not match with the objectives. Therefore, it is important for managers to research more and provide a preferable culture which will match the framework. The implementation of TQM into an organisation requires a sound organisational culture change. Changing organisational culture is a very challenging task, which often faces resistance. The challenge of implementing TQM results from the fact that TQM is not a slogan, nor a tool, nor a program but it is an organisation paradigm. The idea of TQM is wide enough to be the framework or foundation of organisational culture. Therefore, implementing TQM might deal with replacing, not just adjusting, organisational culture. Furthermore, the transformation from the traditional western paradigm to the eastern TQM paradigm would be a radical change.
  
- ❖ Developing countries **lack funding** for their projects to be effective. This is because in developing countries there are not enough sponsors for construction projects. It is found that in developing countries there is a lack of proper planning and management of finances. Loans and grants given to accelerate poverty reduction programs are few. This lack of financing still exists even though many countries have introduced investor capital to help the pipeline of bankable projects. The other reason why developing countries lack funding is that developing countries have been abandoned by giving inadequate funding. Delivering goods and service just on time (JIT) will increase the competitive advantage to the organisation. Therefore, goods can only be delivered on time if there is proper planning and enough funding to cater for all transport or delivery expenses. The construction industry benefits the country`s economy. For successful TQM or other quality management programmes, it is imperative that continuous training is offered at all employee levels, and enough funds to be made available to cater for the training.

- ❖ The use of *modern technology* will result in sound TQM implementation. It also helps employees to develop more skills. Technology has benefited most of the developed countries as everything they do is now computerised for producing quicker results. The ISO9001 is installed for quality checks. The use of technology has also reduced the time taken by human labor either to construct a building or to communicate. The organisation should have an inter-integrated computerised information system, which collects, stores, analyses and disseminates information for various specific purposes. Such information systems, like internet facilities (WIFI), can manage large amounts of information and provide sufficient information for management to make proper decisions. Furthermore, different departments can share resources through network information. Thus, communication barriers between departments can be eliminated. The information system can be used to support the process of decision-making and evaluation. It is also important that information that is gathered should be acted on. If it is not used, it becomes valueless. Because an organisation gathers a lot of data, only important information should be stored in the information system. Use of internet connections (WIFI) has been found as the cheapest means of communication amongst employees at the workplace. Construction mobile technology assists employees for either effective communication and for their structure drawings. Therefore, the use of mobile technology has allowed even distance employees to communicate; for example, some employees might be working off-site but can still manage to reach others and solve the problem encountered.
  
- ❖ Although there will be challenges involved during the TQM process, managers should be aware and ready to tackle them rapidly and accordingly. Managers should have different numerous plans and policies to use when they reach a challenge. It is advisable for managers to always have a second plan if the first plan fails.
  
- ❖ While it can be difficult to overcome all the challenges incurred, some of the challenges must be dealt with. Some challenges, for example, delayed delivery of materials, can be due to unpaid invoices or unavailability. Hence, this can be difficult to solve other than to wait until the organisation has received some funds to pay it off.

## **6.6 RESEARCH LIMITATIONS**

The following were found to be constraints in the implementation of the research;

The main study limitation was that it adopts a case study approach which focuses on a construction company located in Harare, the capital city of Zimbabwe. In addition, primary data was collected from employees of the single selected organisation using a census approach. Therefore, results cannot be generalised to all other construction organisations in Zimbabwe. A last constraint was the low response rate. Nonetheless, the study lays the basis for how organisations could promote quality management by implementing TQM, particularly in a challenging economic environment.

## **6.7 MANAGERIAL IMPLICATIONS**

The research offers numerous managerial implications for businesses and policymakers. This study would be very beneficial to policymakers in business as a tool for assessing the effectiveness of their present TQM practices. Managers need to be conscious of the strategic quality tools available to spearhead improvement of quality in the organisation. The potential of TQM is achieved through the essential training of all people at every level. Furthermore, it creates TQM awareness, interest, desire, and action in the organisation. Therefore, senior management could focus on the growth of suitable training programs for TQM implementation. Businesses must consider suppliers as business partners. This is because business partners have to be involved in product expansion, process improvement and creating the quality policy. Hence, this may lead to improved quality and client satisfaction. Simply: Small businesses can survive competitive pressure emanating from both the domestic and international market by improving operational and organisational performance through TQM implementation. Furthermore, the importance and benefit of TQM to an organisation should be known. The benefits that can be achieved as a result of successful implementation of TQM are:

- ❖ Reduced construction cycle time;
- ❖ Better control of processes leading to consistency from the design through to the delivery stage;
- ❖ A reduction in the quantity of damaged goods during transit and the construction process;
- ❖ Reduced delivery time to construction sites;
- ❖ Increased performance management measures; and

- ❖ Improvement in customer satisfaction.

However, several TQM program assistance have not been attained in the construction industry. Management goals for example as client satisfaction, meeting specifications, huge market share, higher productivity, zero defects, X percent rise in sale whilst Y percent decline in costs can be achieved by embodying TQM ethics. These objectives naturally become a consequence. Therefore, contributions made by the study will support small businesses. In addition, managers acknowledge and embrace TQM as it is not only limited to large companies.

## **6.8 AREAS FOR FURTHER RESEARCH**

More research studies should be conducted in developing countries so that the TQM concept is understood further. Forthcoming research can test the theoretical framework by setting this study in a different context. In addition, the future researchers can focus on applying different research methods approach to a larger sample size.

Further studies can also research application of the JIT concept in the construction industry and how this affects successful implementation of quality projects. Future researchers can explore the benefits of delivering goods and services on time, also exploring the importance of start and end time of the project. Future research needs to focus on the introduction of governing frameworks that are easily adopted by governments, such as policies (tax incentives) that will inspire large businesses to participate in TQM programmes. Training and motivation influences successful implementation of TQM. Therefore, further studies can also research how training impacts implementation of TQM. The promotion or birth of small businesses and their engagement with TQM initiatives should, therefore, be encouraged. If TQM is presented in the public sector – the Zimbabwean construction industry is the main employer of consultants, contractors, and professionals in the construction fraternity – it can, in the long run, bring the culture of quality in the industry. Therefore, it is recommended that future studies explore implementation of TQM in small businesses. The study endorses future research to explore TQM from a government projects perspective, as well as other industries in the country.

In closing, the philosophy of TQM goes beyond management systems to the production and service procedure. It holds the principles, processes and practices which are essential for clients’

satisfaction. Commitment and perseverance from the top management and the entire workforce are important for the journey of TQM implementation. Contractors need to comprehend that the results does not occur instantly. Instead, it takes a while for the organisation to adjust, transform and engage.

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## APPENDIX A – INFORMED CONSENT FORM

### UNIVERSITY OF KWAZULU-NATAL School of Management, IT and Governance

Dear Respondent,

#### Research Project

**Researcher:** [Memory Nhemachena] (Telephone number: [+27-72-337-9308]) (Email: [mmpofuu@gmail.com])

**Supervisor:** [Dr. E. Derera] (Telephone number: [033 260 5781]) (Email: [dererae@ukzn.ac.za])

**Research Office:** Humanities & Social Sciences Research Ethics Administration, Govan Mbeki Building, Westville Campus, Tel: + 27 (0)31 260 8350, Email: [hssreclms@ukzn.ac.za](mailto:hssreclms@ukzn.ac.za)

I, Memory Nhemachena am an MCom student in the School of Management, IT & Governance, at the University of KwaZulu-Natal. You are invited to participate in a research project entitled: *The implementation of total quality management: A case study of a construction company in Zimbabwe*. The aim of this study is to explore the implementation of TQM in a construction company in Zimbabwe. Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this research project. Confidentiality and anonymity of records will be maintained by the researcher and School of Management, IT & Governance, UKZN. All collected data will be used solely for research purposes and will be destroyed after 5 years. This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (+27 (0)31 260 8350). The interview should take about 45 minutes to complete.

Thank you for your time!!!

Sincerely

Researcher's signature \_\_\_\_\_ Date \_\_\_\_\_

[Memory Nhemachena]

*This page is to be retained by the participant*



## APPENDIX B – ETHICAL CLEARANCE LETTER



27 November 2017

Ms Memory Nhemachena 206525758  
School of Management, IT & Governance  
Pietermaritzburg Campus

Dear Ms Nhemachena

Protocol reference number: HSS/1834/017M

Project title: The implementation of total quality management: A case study of a construction company in Zimbabwe

**Full Approval – Expedited Application**

In response to your application received 28 September 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

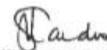
Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

**PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



.....  
**Dr Shamila Naidoo (Deputy Chair)**  
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Dr Evelyn Derera  
Cc Academic Leader Research: Professor Brian McArthur  
Cc School Administrator: Ms Debbie Cunynghame

**APPENDIX C – INTERVIEW GUIDE**

**IN-DEPTH INTERVIEW GUIDE FOR MANAGERS IN CONSTRUCTION**

**COMPANY IN ZIMBABWE**

**SECTION A Background information**

1. What is your age category?

<i>18-25 Years</i>	
26-35 years	
36-45 years	
46-55 years	
56 and 65 years	
70 and above	

2. Please select your gender

M	F
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3. What is your highest educational qualification?

4. What is your position in the company?

5. How many years/months have you been working in this company?

6. What motivates/drives you to work in this company?

**SECTION B**

7. What kind of conducive work environment does the top management provide for the success of TQM implementation?

8. Does the top management facilitate the critical resources for employees and company for the positive result of TQM implementation? If so, what kind of resources do they provide?

9. How does your management involvement influence the role of TQM implementation?

10. What measures does the top management design to ensure the excellence of TQM implementation?

11. How does the top management support an organisational culture and climate of open cooperation and teamwork amongst stakeholders in TQM implementation?
12. What are some of the company`s mission, visions, and policies on the implementation of TQM?

### **SECTION C**

13. Can you explain the importance of employee empowerment in implementing TQM?
14. Do you consult with employees on problem-solving on the implementation of TQM? If so, to what extent do employees influence TQM results?
15. How is the involvement of employees in TQM implementation benefiting the company`s desired results?
16. What kind of training or empowerment does the employee have on TQM implementation?
17. How do you increase the knowledge of employee empowerment in the implementation of TQM?

### **SECTION D**

18. Can you please explain the organisational culture of your company which is best suited to a TQM system?
19. Is there any influence your organisation culture has on the implementation of TQM? If so please explain how?
20. How is the relationship between organisational culture and TQM implementation considered as obstacles?
21. What main types of cultures does your company use to overcome the TQM implementation barriers?

### **SECTION E**

22. Is the technology you are using always updated to meet the TQM requirement for the success of achieving good results?
23. Is there a free flow of quality management information between departments in your organisation?

24. How does your internal and external communication system work during the process of TQM implementation?
25. Do you think the way you are using information technology in your organisation is achieving the intended results? Please explain your answer.
26. Are you providing your organisation with all the modern technology for them to be able to implement TQM successfully? If so, please explain some of the types of technology used.
27. Do you always educate and train employees for them to have the greatest skills of TQM implementation?

### **SECTION F**

28. Please explain some of the challenges you are experiencing in the implementation of TQM in your organisation.
29. To what extent do the challenges mentioned above influence the implementation of TQM?
30. How do the challenges arise during the process of TQM implementation?
31. Of the different challenges you are experiencing, which are the main ones which hold you back from implementing TQM?

### **SECTION G**

32. Please explain how you overcome some of the challenges listed above when implementing TQM.
33. What are the different strategies you use to overcome some of the challenges faced in the TQM implementation?
34. How effective are these strategies used by your organisation?
35. Could you please recommend other strategies that could be used by other organisations in Zimbabwe?

**THANK YOU FOR YOUR CO-OPERATION!!!**