UNIVERSITY OF GHANA

TOTAL QUALITY MANAGEMENT: A CATALYST FOR OPERATIONAL EXCELLENCE IN SMALL AND MEDIUM SIZED ENTERPRISES (SME'S) IN GHANA

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THIS THESIS IS SUBMITTED TO THE DEPARTMENT OF OPERATIONS AND MANAGEMENT INFORMATION SYSTEMS, UNIVERSITY OF GHANA BUSINESS SCHOOL, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN OPERATIONS MANAGEMENT.

JULY, 2019

DECLARATION

I do hereby declare that this thesis is the result of my own research produced under supervision and has not been presented by anyone for any academic award in this or any other university. All references used in the thesis have been fully acknowledged.

I bear sole responsibility for any shortcomings of this study.

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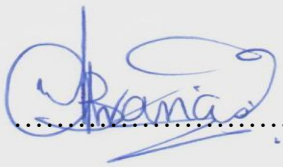
CERTIFICATION

We hereby certify that this thesis was supervised in accordance with procedures laid down by theUniversity of Ghana.



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DEDICATION

I dedicate this work to mymother KandeZalia Abdulai for her support andencouragement throughout my educational career.

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ABSTRACT

Globalization presents both opportunities to economies in the form of new market as well as threat of competition from foreign entrants due to trade liberalization. In addition to globalization are changing need of the customer and technological advancement. This situation is adversely affected by local businesses in countries in Africa including Ghana. It is also evident that about 90% of businesses in Ghana are SMEs. Therefore, the operations of SMEs are affected by these new trends hence their high mortality rate in Ghana. Meanwhile, these SMEs are recognized as the principal driving forces for economic development in both developed and developing economies including Ghana. This study employed a quantitative approach with data collected from samples of SMEs through questionnaire. Stratified random sampling was used to sample SMEs while purposive and convenient sampling was applied to choosing respondents. The study found out that, the SMEs are not practicing TQM. The study results further indicates that Critical Success Factors for implementing TQM will have a positive impact on the business performance of SMEs. Additionally, the study identified some notable challenges hindering successful implementation of TQM among SMEs in Ghana. Lastly, the study proposed a TQM implementation framework for SMEs to follow. The study recommends that SME owners and managers should fully adopt TQM to ensure innovation and continuous improvement. Again, they should make it a priority to involve the customer in designing products. To Government, recommendation is made for the investment in human capital of nationals as well as the introduction of policy to support SMEs.

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LIST OF ABBREVIATIONS

ADF African Development Fund

AGI Association of Ghanaian Industries

APDF Africa Project Development Foundation

CSFs Critical Success Factors

ECOWAS Economic Community of West African States

EFQM European Foundation for Quality Management

EPA Economic Partnership Agreement

EU European Union

GDP Gross Domestic Product

GSS Ghana Statistical Service

IBES Integrated Business and Economic Survey

ISO International Standard Organizations

MBNQA Malcolm Baldrige National Quality Award

NBSSI National Board for Small Scale Industry

OECD Organization for Economic Co-operation and Development

PLS Partial Least Square

SPSS Statistical Package for Social Sciences

SEM	Structural Equation Modeling
SMEs	Small and Medium size Enterprises
TQM	Total Quality Management
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
WHO	World Health Organization
RGD	Registrar General's Department

CHAPTER ONE

INTRODUCTION

1.0Background of the study

In today's business, Quality is recognized as one of the prominent driving forces of global coemption. The current business environment calls for the provision of quality products and superior service from organizations to their customers so as to ensure their continual survival and growth at the market place(Fening,2012; Russell & Taylor, 2011; Wilkinson, Redman,Snape& Marchington,2003).

This is as a result of trade liberalization which has resulted in global competition, as well as customer demand for improved quality. Businesses in their quest for survival and growth in the face of the global challenges have injected substantial resources in adopting and implementing TQM strategies (Kwamega, Li & Ntiamoah 2015; Anderson & Sohal,1999; Russell & Taylor, 2011; Banuro, Ntiri-Ampomah& Banuro,2017). Therefore, implementation of quality management strategies by businesses gives them a competitive advantage over other businesses. The term Total Quality Managementis defined as “a management system that takes into consideration all the areas of the operations in an organization” (Kwamega et al. 2015). Organizations since 1980’s have adopted TQM strategies in their effort to achieve customer satisfaction so as to gain or remain competitive (Kwamega et al. 2015; Oakland, 2014). Consequent to this, businesses try to incorporate proven successful operational management practices in their operational set-up applied elsewhere with remarkable result. This is to help detect changes in their environment so as to provide timely response through continuous improvement.

Owing to the role of TQM in business performance especially in SMEs, FeningPesakovic, & Amaria(2008), conducted a study on selected small firms (116) in Ghana representing all sectors. The study examinedthe relationship of each of the Malcolm Baldrige National Quality Award (MBNQA) variables with the five performance indicators of profitability, customer satisfaction, sales growth, employee morale, and market share. All the variables of quality management indicated a positive significant relationship with performance.

In many economies, both the developed and developing Small and Medium Size Enterprises (SMEs) are said to be the principal driver of economic growth and economic development (Asare, 2014; Abor & Quartey. 2010; Karadag, 2015; Paul, Whittam, & Wyper, 2007). Increasingly, the contributions made by SMEs towards economic development are being noticed. These SMEs are characterized as efficient and prolific employment avenues, the seeds of big businesses and the fuel that powers national economic engines (Abor & Biekpe, 2005; Cuckovic & Bartlett, 2007; Mensah, 2004; Taiwo, Falohun & Agwu, 2016; Imeokparia & Ediagbonya, 2014; Abor & Quartey, 2010). Additionally, Small and Medium-Sized Enterprises accelerate socioeconomic objectives such as poverty alleviation (Abor & Quartey, 2010; Cook & Nixson 2000). Asare (2014) stated that in developed economies such as the United Kingdom and Germany, Small and Medium Size Enterprises constitute of a major number of registered companies.

Numerous researches have been undertaken in the developed world to examine the impact, linkages, component, relationships and practices of TQM on organizations' performance. Those studies have concentrated on large organizations. However, few studies have been done in developing countries (see Abor & Quartey, 2010; Kwamega et al, 2015 and Fening et.al,

2008) to unpack the complicities surrounding TQM and business performance. Therefore, researches on TQM as a tool for establishing operational excellence among SME's is limited.

1.1 Problem Statement

Africa, for that matter Ghana is endowed with lots of natural resources and has one of the best ratings when it comes to ease of doing business in the world **(**World Bank Doing Business Report (2012**).** The World Bank ranks Ghana as one of the countries in the world one could easily start a business. This is because it has less regulatory requirement as compared to other countries (World Bank Doing Business Report, 2012). This is especially with SMEs. For instance, Tetteh-Ossom (2013) found that the capital, technology; management and utilities required of SMEs are simple. For this reason, SMEs are more prominent in the Ghanaian economy, representing about 92 percent of all Ghanaian businesses, according to a research by Abor and Quartey (2010) and a Report by BASIAT published on myjoyonline by Senzu (2014).

With all the potentials and opportunities, majority of businesses in Ghana where SMEs dominate do not outlive their third year of operation. This was reiterated by Ghana's Business Development Minister in a speech indicated that only 15% of business in Ghana lives more than 3 years. Also, studies by Mahamound (2011) and Yebaoh (2015) opined that most SMEs do not go beyond five years. This alarming rate of business failure or, better still, the stagnation of SMEs growth gives the Ghanaian economy reason for concern; there is therefore urgent need for research on the implementation of TQM by SMEs in Ghana in order to achieve operational excellence.

In Ghana,organizations especially the SMEs areusually content with their current state especially when they believe their products and services have become market leaders. These businesses do not do proper performance measurement, they only measure their performance against that of their rivals. When they realize are doing better than their rival, they are content and see no reason to improve. Many businesses, especially the ones which give numerical quotas to their workers (sale target, production target) typically measure performance with just their output, neglecting quality of work done. A firm that relies on current performance and fails to continually improve will run out of business in no time as indicated by the C.E.O. of Nokia "*we did nothing wrong but we lost"*. This motivated the researcher to undertake this study.

Again, the signing of the Economic Partnership Agreement (EPA) by the ECOWAS and European Union in 2014 and subsequent ratification by Ghana in 2016 presents a double-sided sword to the SMEs and the Ghanaian firms at large. The EPA presents opportunity for access to a larger market and as well as threats of competition from the EU firms to Ghanaian firms. This makes it imperative to research on how Ghanaian SMEs can leverage on TMQ to improve their performance and provide customers with superior quality product as a hedge against foreign competitors.

Ghanaian businesses that are into export face the problem of rejection of their products in the global market due to lack of quality. This is typical in the USA, Asia and Europe where quality standards are adhered to. This situation calls for the attention of the SMEs sector whose products are greatly affected to look the direction of TQM in their production in order to meet international standards.

1.2 Objectives of the Study

The primary objective of the study is to explore how TQM can be used as a catalyst to achieve operational excellence in SMEs. The study specifically seeks to;

i. Determine the extent to which TQM is practiced among SMEs in Ghana.

ii. Identify the Critical Success Factors (CSFs) of TQM implementation among SMEs in Ghana.

iii. Identify the challenges of TQM implementation among SMEs in Ghana.

iv. Proposal of TQM implementation framework for SMEs.

1.3 Research Questions

In order to achieve the research objectives, the study will seek to answer questions such as;

i. What TQM practices exist among SMEs in Ghana?

ii. What are the Critical Success Factors (CSFs) of TQM implementation among SMEs in Ghana?

iii. What are the problems faced by SMEs in Ghana in the implementation of TQM?

iv. What framework can best enhance TQM implementation?

1.4 Significance of the Study

Effectively adopting and implementing TQM can improve competitiveness, growth and survival of SMEs in Ghana. Also, SMEs owners and managers will benefit from the findings

and recommendations of this research. In addition, the study will be a source of reference to policy makers and players in the financial market to focus attention on the need to assist SMEs in Ghana to practice quality management. This will ensure the provision of quality goods and services to capture and retain customers so as to continue to be in business. It will also give a policy direction to agencies like the Ghana Standard Authority, the Consumer Protection Agency, and National Board for Small Scale Industry (NBSSI), Association of Ghanaian Industries (AGI) as well as foreign agencies such as International Standard Organizations (ISO), Africa Project Development Foundation (APDF), African Development Fund (ADF), United States Agency for International Development (USAID), and others that are committed to seeing the development, growth and the successful implementation of TQM in Ghana.

The study will also provide insight to business operations in Ghana, more especially to SMEs both Ghanaian owned and foreign owned, to employ the TQM as a tool for continuous improvement. Also, to business advisors, this study will open avenues for opportunities in business consulting. Small firms that are willing to implement TQM practices will need the services of business advisors or management consultants for quality management implementation. Above all, the study will contribute to existing literature by presenting evidence from the outcome of this thesis as a source of reference and direction for future research.

1.5 Scope and Limitations of the Study

This study considers 385 SMEs in manufacturing and service sectors operating in Greater Accra Region. Although there are 33,546 SMEs in Ghana most of these SMEs in the

manufacturing and service sector are established in Greater Accra (GSS, IBES summary report, 2015). SMEs in manufacturing and services sectors were chosen because they are more likely to have total quality management issues than those in the agricultural sector. This will help the researcher to understand quality related issues SMEs face.

However, the study will be limited by unwillingness of some owner and/or managers to fill questionnaires even when the researcher presents an introductory letter from the department indicating data collected are for purely academic purposes. The researcher is likely to encounter lots of SME owners who will be reluctant to fill the questionnaire for fear of the researcher using it for purpose other than academic. The researcher will overcome this challenge by providing a photocopy of student and national identification card as a further authentication. Most owners and/or managers may not be knowledgeable on the concept of TQM. The researcher will explain the concept to those owners/ managers to get the understanding so as to facilitate the study.

Also, there will be difficulties in getting respondents and delays in the respondent returning questionnaires. The researcher will minimize the adverse effect of this on the research results by embarking on the visitation much earlier to create the necessary rapport that will enable the researcher schedule appointments with the managers and staff to meet them anytime at their own convenience. Another major constraint is the huge financial obligation required to undertake the exercise. Financial commitment will be made to ensure frequent visits to the proposed companies for the data collection as well as other vital information sources needed for the successful completion of this work. With regards to this problem, the researcher will receive grants from family and friends who bought into the idea behind the research. Again, the researcher will resort to the use of phone calls, e-mailing and other cost-effective means of

scheduling appointments with respondents in order to minimize its impact on the research results.

This study is also constrained by time. That is, it must be completed within one academic year. In view of this the researcher will concentrate on SMEs operating in Greater Accra.

1.6 Organization of the study

In order to ensure coherence and logical flow of the analysis, the whole study is organized into six chapters. Chapter One sets the general background of the study and it addresses issues such as the background of the study, problem statement, objectives of the study, the research questions, the significance of the study, and limitations and scope. Chapter Two presents context of the study. Chapter Three critically identifies and explores the literature review on TQM, SMEs and operational excellence. Chapter Four looks at the methodology of the study. It explains the population, the sampling technique, data collection technique and how the data is analyzed. Chapter Five presents the data and their analysis which are exhibited in tables, charts, graphs and percentages. The results are discussed based on the study objectives and in reference to literature. Chapter Six proposes a TQM implementation framework for SMEs.Chapter Seven contains the summary, recommendations and conclusions of the thesis.

CHAPTER TWO

CONTEXT OF THE STUDY

2.0 Introduction

This chapter gives an overview of the SMEs sector, both in developed and developing economies with particular focus on Ghana. It will first provide the theoretical definition of SMEs in addition to the general overview of the SME sector in Ghana. This chapter will also examine the relevant roles and contribution played by SMEs specifically in the area of economic growth and development, especially in developing countries such as Ghana. Furthermore, it discusses contemporary quality issues in the SME sector.

2.1 Definition of the concept of Small and Medium Sized Enterprise.

A number of studies have tried to come up with a working definition of what kind of businesses can be classified as SMEs (López & Aybar 2000;Kayanula & Quartey, 2010; Steel & Webster 1991). This has led to varying views in relation to the definition of SMEs within extant literature. For instance, Storey (1994), attested that there is no clear, consistent and uniformly acceptable definition for small firms. This may be as a result of contextual differences in the economic systems as well as differences in the variables used in describing SMEs globally. In the same vein, firms differ in their level of capitalization, sales, and employment (Kayanula & Quartey, 2010). However, upon a survey of the literature on the definitions of SMEs, a conclusion was arrived at based on different criteria such as number of employees, annual rate of turnover and value of fixed assets (Ofori-Amanfo, 2014).

That notwithstanding, it is evident that the commonly used criterion in most countries is the number of employees. Even with this common criterion used to define SMEs, it may differ across countries and even within the same country where there are divergent views on the exact number of employees. World Bank defines small and medium enterprises as any firm that has an employee size of up to 300 and an annual sale of not up to US$15 million (World Bank, 1993). SMEs was defined by the European commission (2003) as enterprises which employ 250 or below staff and (or) have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million (Nkuah,Tanyeh & Gaeten, 2013).

A different definition was applied by the Bolton Committee for small firm in different sectors. The Bolton Committee contend that for manufacturing firms, construction firms and mining firms the criteria used to define them were based on number of workers (firm with capacity of 200 or less employees are considered to be a small firm), whereas those in the retail, services, wholesale firms were defined in terms of monetary turnover (firms with turn over ranging from 50,000 to 200,000 British Pounds to be classified as small firm). In the road transport industry, firms are classified as small if they have 5 or less vehicles.

Despite the strong argument by the Bolton Committee, their submissions have been challenged on the grounds that there are inconsistencies between defining characteristics based on number of employees and those based on managerial approach (Abor & Quartey 2010). In the case of UNIDO, the definition of SMEs was in terms of number of workers employed by giving different classifications for industrialized and developing countries.

The definition by industrialized countries is given as follows:

- Large - firms with 500 or more workers;
- Medium - firms with 100-499 workers;
- Small - firms with 99 or less workers.

The classification given for developing countries is as follows:

- Large - firms with 100 or more workers;
- Medium - firms with 20-99 workers;
- Small - firms with 5-19 workers;
- Micro - firms with less than 5 workers.

UNIDO (as quoted in Abor & Quartey 2010).

It is clear from the various definitions that there is not a general consensus over what constitutes an SME. Thus, the definition of SME varies across countries and is dependent upon whose point of view is under consideration.

2.2 Small and Medium Sized Enterprise definition in Ghana

The concept of SME is not having a universally agreed definition. There is no universal definition for the concept of SMEs. Ghana's situation has not been different as institutions such as the Ghana Statistical Service (GSS) and National Board for Small Scale Industries (NBSSI) define SMEs using different criteria (Ackah & Vuvor, 2011). However, the most commonly used criterion is the number of employees of the enterprise (Adu- Darko, 2017;

Abor & Quartey, 2010). There is confusion in the application of this definition as a result of its arbitrariness and cut off points used by the various official sources. The Ghana Statistical Services (GSS) as indicated in its Industrial Statistics considers firms with fewer than 10 employees as small-scale enterprises and their counterparts with more than 10 employees as medium and large-sized enterprises. (Abor & Quartey, 2010; Kayanula & Quartey, 2000). Ironically, the GSS in its national accounts considered companies with up to 9 employees as SMEs (Kayanula &Quartey, 2000). The fixed asset values of firms are also being used as another criterion for defining SME in Ghana.

The National Board for Small Scale Industries (NBSSI) (cited in Abor & Quartey, 2010; Kayanula & Quartey, 2000) employs both the number of employees and number of fixed assets in their assessment of SMEs

The NBSSI defines micro enterprises as the firms that employ up to 5 people with fixed assets not exceeding $10,000 excluding land and buildings, whereas small enterprises employ between

6 and 29 with fixed assets not exceeding $100,000, excluding land and buildings. SMEs have again been grouped recently by the Regional Project on Enterprise Development & Ghana manufacturing as follows: Micro firms constitute less than 5 employees; small range from 5 – 29 employees; medium enterprises employ 30 - 99 employees; and large enterprises have 100 and more employees (Teal, 2002). This study will adopt definition that defined SMEs using the number of employee given by the GSS. This definition is adopted because it is difficult to ascertain information from firms regarding their annual turnover and value of fixed asset than information on number of employees. Again, GSS is a credible government institution.

2.3 General Overview of the SME Sector in Ghana

According to the Ministry of Trade and Industry Report (2014), Ghana's economy is made up of a few large firms, a considerable number of medium enterprises and a plethora of small and micro enterprises. The sector suffers from lack or limited factual data on the actual number of SMEs operating in the country. This is partly due to the fact that many of these SMEs are not registered and operate in the informal sector (Mensah, 2004). Other reasons for poor data on SMEs are attributable to high cost of conducting industrial census, lack of a uniform definition of which business falls under the SME, many SMEs do not register with the registrar generals department so that they can be documented and many remain outside the formal economy (Adu- Darko, 2017). Notwithstanding that, a consideration of the data of registered businesses in Ghana's Registrar General's Department indicates that about 90%of registered businesses are SMEs.

This situation may be due to the ease with which SMEs are established unlike large firms. Tetteh-Ossom (2013) in a study found that the capital, technology; management and utilities required of SMEs are simple. A peculiar Characteristic of the SMEs in Ghana, which is often cited as the reason for their inadequate participation in the international market unlike the large firms is their lack of meeting quality standards (Imran, Hamid &Aziz, 2018; Fening 2012)

Another notable finding from the study by Ackah and Vuvor (2011) indicates that Ghanaian SMEs, in particular, are not contributing significantly in the international and local capital markets as compared to larger firms and this exclusion may be due to the higher cost of intermediation of smaller projects. This phenomenon is attributed to the nature of the financial

system. Also, though a small number of SMEs have the capacity to market their products abroad, majority of products and services produced by SMEs mainly target the local market. This challenge could be due to various reasons including the huge capital requirement for engaging in export trade and the low level of education, training, and awareness of some small business owner (Ackah & Vuvor, 2011).

As indicated by Mensah (2004) SMEs in Ghana are owned by sole proprietors thus a single person, who solely takes all major decisions. This, he argues, makes it almost impossible to separate ownership from the control of the enterprises. Additionally, differentiating between the finances of the business from that of the entrepreneur's is very difficult (Ackah & Vuvor, 2011) in this sector. These often-sole proprietors have limited formal education and lacks information on the use of modern technologies as well as the credit market (Mensah, 2004). Ghanaian SMEs are mostly labour intensive and operate with low technological know-how and innovation.

In Ghana, the SME sector has been categorized into two broad strands; the formal sector and the informal sector. Abor & Quartey (2010) discovered that SMEs in the formal sector are more likely to have an organogram, registered office(s), salaried employees and business units. Whereas enterprises in the informal sector are craftspeople that operate in provisional structures, open spaces, or even from home with few or no paid employees. The latter mostly comprise of individuals artisans, family members and women who are largely involved in food production of local crops, textiles, and leather, agro processing, timber and mining, among others (Aryeetey et al.1994; Kayanula & Quartey, 2000). The major activities in this industry consist of various businesses such as provision and retailing shops and supermarkets, restaurants and food vendors, hair dressing and barbering saloons, clothing and tailoring

shops, carpentry and furniture making shops as well as small and medium scale manufacturers of assorted items such as fruit drinks, sachet water, soap, detergents, pharmaceuticals, among others (Kayanula & Quartey, 2000; Ackah & Vuvor, 2011; Aryeetey et al.1994).

Urban and rural SMEs in the informal sector as well as those in the industrial sector are very heterogeneous in terms of productivity, entrepreneurial talents, and profits, level of technology, capital assets, and development prospects (Adu- Darko, 2017).

2.4 Contributions of Small and Medium Sized Enterprises.

The emergence of Small and Medium-Sized Enterprises (SMEs), over the years, has greatly imparted economies all over the world, and their importance cannot be overstated. SMEs are usually seen as drivers of economic development (Eze, Goh, Goh, &Tan, 2013; McCann & Ortega-Argilés, 2016). Some studies in both advanced and emerging countries have highlighted the progressive role that SMEs play in any given economy (Abor & Quartey. 2010; Karadag, 2015; Paul, Whittam, & Wyper, 2007). Globally, SMEs are said to account for approximately 90% of all the companies in the world; as well as solve the twin problems of unemployment and poverty. As a catalyst for economic growth, SMEs significantly reduce unemployment rates in both developed and developing economies, create revenue for both the government through taxes and the populace by way of profits, as well as serve as an avenue for innovation (Abor & Biekpe, 2005; Cuckovic & Bartlett, 2007; Mensah, 2004; Imeokparia & Ediagbonya, 2014; Taiwo, Falohun & Agwu, 2016).

The contribution of small and medium enterprises operating in the manufacturing and service industries in most countries, are significantly greater than that of large enterprises in terms of optimum utilization of latent resources, innovations, and productive employment including

self-employment. Thus, the development of SMEs to accelerate economic growth is the new trend for global economic policies, especially that of Africa (Calza & Goedhuys, 2016; Robson, Haugh & Obeng, 2009). Developed economies have used SMEs as the medium in achieving rapid industrialization and accelerated economic growth (Harris & Gibson, 2006; Sauser, 2005). For example, according to European Commission (2010) and Schmiemann, (2008), 99.8% of all enterprises in the European Union are SMEs, and they constitute 95% in most developed countries, and employ over 60% of available workforce.The above situation is not different from that of Asia (Frederick, Bair & Gereffi, 2015; Knight, 2000; OECD, 1997).

Contextually, most dominant form of businesses in Ghana are found in the SME sector representing 92% of business establishment in the economy. Abor and Quartey (2010) posit that SMEs contribute about 70% towards Ghana's GDP; thus, there are significant impacts on economic growth, income, and employment. SMEs in Ghana, provide approximately 85% of manufacturing employment (Aryeetey, 2001), as well as the provision of basic goods and services, the generation of export and tax revenues, and job creation for socio-economic development in Ghana (Frimpong, 2013). SMEs also serve as an avenue for innovation and provide the platform for entrepreneurship. Aryeetey and Ahene (2004) described SMEs as the seedbed for indigenous entrepreneurship. That suffices to say that, SMEs have provided a podium for homegrown private enterprises to spring in areas and industries that were generally ignored.

These small businesses have generated many little investments, which would otherwise not have taken place. A combination of these investments has given rise to indigenous entrepreneurship in

Ghana (Alembummah, 2015). In view of these significant contributions made by SMEs, it is expedient that the sector is given the necessary attention since most large enterprises usually start as small ones. Also, De la Torre et al., (2010) pointed to the fact that SMEs need to be promoted to become the backbone of the economy.

2.5 Challenges of SMEs in Ghana

Notwithstanding the contributions of SMEs, there are still wide array of challenges confronting them. In the literature these challenges confronting SMEs are attributed to; lack of equipment and appropriate technology, inadequate finance, poor regulatory policies (Abor & Quartey, 2010;

Quaye& Acheampong, 2013) and managerial talent (Boateng & Ganu, 2012). To begin with, one major challenge facing SMEs is lack of appropriate and improved equipment and technology. Quaye and Acheampong (2013) indicated that there is lack of technology adoption among MES in Ghana. Hayford (2010) also confirmed that SME managers and owners usually have little or no awareness of the new innovation technologies which leads to the reason why SMEs fade out within the space of short to medium term.

Coupled with limited knowledge among SME owners and managers is the problem that SMEs owners and managers who are aware of the existence of improved equipment and technology often face challenges with affordability and accessibility. New and improved technology and equipment for SMEs especially in developing countries such as Ghana are expensive because they are mostly imported with high import taxes and stiff boarder regulations. Even equipment that gets to the market is only reserved for SMEs who have the funds to purchase. In effect, SME managers who are not able to purchase or access improved equipment and

technology rely on old equipment and technology which beset the potential for achieving operational excellence.

Another challenge confronting SMEs in manufacturing and service sectors in Ghana is the lack of quality human resource. Enterprises including SMEs require both skilled and unskilled labour force in the right quality and quantity to undertake activities such as production and marketing. That notwithstanding, Aryeetey et al. (1994) noted that 7 percent of firms have problems finding skilled labour. For instance,Mahamoud (2011) noted that SMEs usually lack marketing specialists, and even owners who are sole decision-makers also lack formal education (Hinson & Mahmoud, 2011). The problem of resource scarcity can partly be explained by the small size of SMEs who are unable to engage employees with diverse expertise. Kayanula and Quartey (2000) found evidence that small businesses in Ghana are dominated by one person mostly family members and this limit the intellectual capacity and resource base, contrary to that, Asiedu (2016) presented his case that SMEs in Ghana involve outsiders and non-family members.

Furthermore, SMEs face difficulties in accessing finance and credit. This challenge impedes managers from adopting any new technology. Again, a study by Aryeetey et al. (1994) posits that 38% of SMEs in Ghana face financial constraints in the running of their business. The difficulty accessing funds and credit could be due to factors such as the perceived high risk, barriers to information, management weakness, and high costs of intermediation (Hayford, 2012). This has left managers with no option but to continuously rely on simple and old equipment for their production, distribution, and other operations (Aryeetey et al., 1994). It is in light of this funds and credit challenge that Asiedu (2016) proposed that government must

develop a more focused financial policy to help SMEs access improved equipment and technology.

2.6 Total Quality Management

In itself, quality is an idea famous in our current dispensation. It is commonly mentioned by every individual. The UK has three major quality awards and standards namely, the Business Excellence model, the Citizens Charter and the Investors in People standard. Malcolm Baldrige

Award is that of the United State while the Japanese award the Deming Prize. The Europeans have through the European Foundation for Quality Management come out with European Quality Award. In Ghana, the Ghana Standards Authority and Food and Drugs Authority are the institutions mandated to ensure quality standard. Complementing the role of the Ghana Standard Authority and Food and Drugs Board in Ghana is the International Standard (IS09000) series by the international standard Organization. This new effort in becoming conscious of quality has covered a wide range of area including SMEs operations. Small enterprises are now focusing on waysto develop approaches to ensure quality goods andservices. The concept of TQM is a management system that takes into consideration all the areas of the operations in an organization (Kwamaga, 2015). As defined by Russell and Taylor (2011), TQM is the ability of a product to satisfy stated or implied requirements.

2.7 Total Quality Management and Operational Excellence in SMEs.

Operational excellence is “a philosophy of leadership, learning and problem solving resulting in an increasing attainment of business performance through continuous improvement in the

entire organization by focusing on and satisfying the needs of the customer, empowering employees, and optimizing activities in the process" (Rougan, 2015; Sdikoglu & Oclay, 2014; Fitzsimons & Fitsimons, 2011). If an enterprise wants to achieve operational excellence, continuous improvement is very important and this requires the enterprise to understand its current state, the current trends in its industry and the processes of other top organizations, and try to learn from them and improve on its own activities in order not to only satisfy customers but also to delight them. However, many SMEs, trying to achieve operational excellence go about this the wrong way.

It is understandable to try to improve upon a particular area of your business that needs change, but it should not be done in isolation as seen in most organizations. They fail to realize that success is a product of all functional areas and processes of the business. For example, an organization in its pursuit of operational excellence may procure a machine or software so as to increase productivity but may neglect to train staff on how to attend to customers. This counteracts any potential gain from the improved technology and this technological step-up may even prove to be counterproductive for the organization in the long run. When the customers who are to do business with the organization are not well taken care of, they stop to deal with that firm.

Small firms are said to lack those resources to implement quality management. Quality management is seen as a strategic tool to improve organizational performance in both large and small businesses and in any part of the world. Quality management practices today simply represent sound management practices. These practices are now viewed as generic management activities. In recent times the concept of quality has been a concern for most businesses. There have been studies regarding the relationship between certain variables of

TQM and performance of SMEs (Fening, 2008). The studies established that if firms implement quality management practices, they will have a tremendous impact on the performance and growth of SMEs. Continuous improvement in both small and large organizations in any part of the world is successfully achieved when the firm practices Total Quality management (Fening 2008; Fening 2012, Panuwatwanich & Nguyen, 2017; Imran, Hamid &Aziz, 2018).

CHAPTER THREE

LITERATURE REVIEW

3.0 Introduction

The literature review is essential as it provides insight into the impact of TQM on business excellence of SMEs and potential reasons for TQM failures. Additionally, an in-depth understanding of the theories, models and practice in the field of TQM and various studies by other scholars will be reviewed and analyzed. This chapter is organized into ten parts commencing with 3.1 which provides the definition of quality. Section 3.2 reviews the evolution of quality management. Section 3.3 looks at the contributions made by various authorities in quality Management (Quality Gurus). The next section, Section 3.4explains quality control tools and techniques whiles Section 3.5 reviews the TQM concept and theories. Further, Section 3.6 examines the Critical Success Factors of TQM implementation. Both Sections 3.7 and 3.8 presents the Critical Success Factors of TQM implementation and SMEs performance and challenges of TQM implementation respectively.Section 3.9 presents conceptual framework for this thesis. The chapter will be concluded with Section 3.10discusses Business Performance and the three indicators which translate into Business performance (Customer Satisfaction, Employee Satisfaction and Profitability).

3.1 The Concept of Quality Defined

Owing to the fact that customers want value, quality has become a major factor in the value of products and in services hence a firm must consider how the consumer defines quality (Reid & Sanders, 2013; Russell & Taylor, 2011). The common definition of quality is fitness for use. That is to say, a product or services fitness for its intended purpose. This definition

considers the extent to which the product or services performs what the customer thinks it is supposed to do and wants it to do. Where products are designed for different types of consumers it is commonly referred to as the quality of design (Russell & Taylor, 2011). Quality of design is the degree to which quality characteristics are designed into the product. Although designed for the same use, product or services can differ in their performance, features, size, and various other quality characteristics (Russell & Taylor, 2011; Oakland 2014; Reid & Sanders, 2013).

The American Society for Quality (ASQ) defines quality as a subjective term for which a person has his or her own definition. In technical usage, quality can have two meanings: (1) the characteristics of a product or service that bear on its ability to satisfy stated or implied needs and (2) a product or service free of deficiencies. Obviously, quality can be defined in many ways, depending on who is defining it and the product or service it refers to (Russell & Taylor, 201i). Oakland (2014, pp 4) defined quality simply as "*meeting the customer requirements*", thus quality starts with understanding customer needs and ends when those needs are satisfied. Quality is the ability of a product to satisfy stated or implied requirement of a customer (Karapetrovic & Willborn 1997).

Quality of conformance is the producer's perspective of what quality is. What this means is that quality during production focuses on making sure that the product meets the specifications required by the design. From this producer's perspective, good quality products conform to specifications hence they are well made. Whereas poor-quality products are not made well hence they do not conform to specifications (Oakland 2014).

3.2 Evolution of Quality

Increased competition in the global marketplace has led to quality becoming of increasing importance to organizations and consequently total quality management (TQM) has become a key management issue.

Today, a considerable number of companies are applying TQM and the topic is the subject of many books and papers (Motwani, Prasad & Tata, 2005; Martínez-Lorente, Dewhurst, Dale, 1998). Martínez-Lorente et al., (1998) again recounted that, as the end of the twentieth century approaches, the concept of TOM has proven to be a well-accepted system of management. Yet two decades ago the term was not famous as it is today. Prior to the industrial revolution, skilled craftsmen performed all stages of production and Birdie the focus was *"just to make sure the job is done right"* (Stevenson 2014, p. 369). Then came the era of industrial revolution which was characterized by division of labour, where inspection was nonexistent or was done anyhow (Stevenson, 2014).

Basically, in the early twentieth century, quality management meant inspecting products to ensure that they meet specifications (Reid & Sander, 2013). Statistical quality control procedures gained prominence after World War II. There was a dramatic increase in emphasis on quality control, leading to university training engineers in the area of statistical sampling techniques, professional quality organizations such as American Society for Quality Control (ASQ), in addition to Bell Lab and US army (Stevenson, 2014). Powell (1995) also argued that, the origin of quality can be traced back to 1949, when the Union of Japanese Scientists and Engineers formed a committee of scholars, engineers, and government officials devoted to improving Japanese productivity and enhancing their post-war quality of life.

During the 1950s, the quality movement evolved into quality assurance (Goetsch & Davis, 2014, pp). During the 1960s, the concept of "zero defects" was ushered in with focus on employee motivation and education on quality. Quality assurance methods were extended to services such as government operations, health care, banking, and the travel industry in 1970s. Figure 1 below is a summary of the evolution of TQM.

Figure 3.1:Time line showing differences between old and new concepts of Quality

TIME:	Early 1900s	1940s	1960s	1980s and Beyond
FOCUS	Inspection	Statistical Sampling	Organizational quality focus	Customer – driven quality
	Old Concept of Quality: Inspection for Quality production			New Concept of Quality: Build quality into the process, Identify and correct causes of quality problems

Source: Reid & Sander, (2013)

3.3 Quality Gurus

A full understanding and appreciation of the TQM movement requires that a critical review of the works and philosophies of notable individuals who have shaped the evolution of TQM. The philosophies and teachings of these individuals have contributed to the knowledge and understanding of quality today (Reid & Sander, 2013). They have had a dramatic impact on the importance of quality in the United States, Japan, and other countries (Taylor & Russell, 2011). These notable individuals are referred to as "Quality Gurus". Businesses today have

implemented and others now implementing the concepts established by the quality gurus. This study reviewed the contributions to TQM by these quality gurus such as Walter Shewhart, Edward W. Deming, Joseph M. Juran, Armand V. Feigenbaum, Philip B. Crosby and KarouIshikawa)

Walter Shewhart, was a genuine pioneer in the field of quality control (Stevenson 2014). He was a statistician who worked at Bell Laboratories during the 1920s and 1930s (Russels and Taylor, 2011; Reid & Sanders 2013). He developed technical tools known as the control charts for analyzing the output of processes to identify whether there is variability in the process and the possible causes. Controlchartbecamethebasisforstatistical quality control (Reid &Sanders, 2013). He believed that eliminating variability in processes improves quality. His work created the foundation for today's statistical process control, and he is often referred to as the "grandfather of quality control." (Stevenson 2014).

Also, one of the notablequality Gurus is Edward W. Deming. He is often referred to as the "father of quality control" (Reid &Sanders, 2013). Deming started teaching statistical quality control to Japanese companies. The union of scientist was so impressed by the work of Deming in 1951 so that it established the Deming Prize, which is awarded annually to firms that distinguish themselves with quality management programs (Stevenson, 2014; Reid &Sanders, 2013; Russell & Taylor, 2011). To inspire and guide managers, W. Edwards Deming presented "Fourteen Points for Management," a set of guidelines for managers to follow if they are serious about improving quality (Russell & Taylor, 2011 p. 61) Additionally, Deming is also credited for the development of the Deming's Wheel and Plan-Do-Check-Act (PDCA) cycle.

Although Juran's philosophy is similar to Deming's, they depart at some points. Russell and Taylor (2011) argued that, whereas Deming stressed the need for an organizational "transformation", Juran believes that implementing quality initiatives should not require such a dramatic change and that quality management should be embedded in the organization.

One of Juran's significant contributions is his focus on the definition of quality and the cost of quality. Stevenson (2014) posited that Juran viewed quality as fitness-for-use rather than simply conformance to specifications. Additionally, Juran is also credited with developing the concept of cost of quality, which measures quality in monetary terms rather than on the basis of subjective evaluations (Russell &Taylor, 2011). He demonstrated the potential for increased profits that would result if the costs of poor quality could be reduced. Juran described quality management in terms of a trilogy consisting of quality planning, quality control, and quality improvement (Stevenson, 2014). A key element of Juran's philosophy is the commitment of management to continual improvement. Pareto chart is one of the statistical control tools attributed to Joseph M. Juran.

Another quality leader is Armand V. Feigenbaum who introduced the concept of total quality control. Feigenbaum took a total system approach to quality. He promoted the idea of a work environment where quality developments are integrated throughout the entire organization, where management and employees have a total commitment to improve quality, and people learn from each other's successes. This philosophy was adapted by the Japanese and termed "company-wide quality control".Philip B. Crosby is another recognized guru in the area of TQM. He developed the phrase "Do it right the first time" and the notion of zero defects, arguing that no quantity of defects should be considered acceptable. He scorned the idea that a

small number of defects are normal part of the operating process because systems and workers are imperfect. Instead, he stressed the idea of prevention (Stevenson, 2014).

Kaoru Ishikawa is best known for the development of the quality tool called cause-and-effect diagram, also called fishbone or Ishikawa diagram. This diagram is used for quality problem solving. He was the first quality guru to emphasize the importance of the "internal customer" the next person in the production process. He was also one of the first to stress the importance of total company quality control, rather than just focusing on products and services. He stressed that quality initiatives should be pursued at every level of the organization and that all employees should be involved (Russell & Taylor, 2011).

The reviews of the approaches to TQM by these quality gurus have revealed that each has his own distinctive approach. Nevertheless, the principles and practices of TQM proposed by these quality gurus do provide a better understanding of the concept of TQM. Their insights offer a solid foundation for conducting this study. Although their approaches to TQM are not totally the same, they do share some common views.

3.4 Tools for Identifying Quality Problems

The quality Gurus discussed in Section 3.3 above have made contributions which emphasize that, a major cornerstone of the commitment to quality improvement is the need to identify and prevent the causes of quality problems or defects. These individuals prescribed a number of tools to identify the causes of quality problems that are still widely used today. These tools are often called the *magnificent seven* or the *seven quality control tools*. They are mainly made up of process flowcharts, Pareto charts, cause-and-effect diagrams, check sheets, histograms, scatter diagrams and statistical process control charts. These Quality tools can be

used to evaluate the acceptability of product quality and to monitor product quality from individual suppliers. They can also be used to evaluate causes of quality problems, such as long transit time or poor refrigeration. Similarly, restaurants use quality control tools to evaluate and monitor the quality of delivered goods, such as meats, produce, or baked goods.

A process flowchart is a schematic diagram of the steps in a job, operation, or process. It provides a visual tool that is easy to use and understand (Russell & Taylor, 2011). It enables everyone involved in identifying and solving quality problems to have a clear picture of how a specific operation works and a common frame of reference. It also enables a process improvement team to understand the interrelationship of the departments and functions that constitute a process.

In the case of a check sheet, it contains a list of identified defects on a number of defective products observed during a production cycle. Check sheet help to identify the number of defective products and the different assignable causes presented with the aid of either a histogram or a Pareto diagram (Russell & Taylor, 2011). This will enable management to undertake a rework on these products. Also, Pareto analysis is a technique used to identify the causes of poor quality based on the degree of importance of these causes. The logic behind Pareto analysis is that only a few quality problems are important, whereas many others are not critical. In addition, the use of histogram involves a check sheet that is used to tally the number of defectives with all identified causes of poor quality first. When the check sheet is completed, the total tally of defects for all the defective products is then used to create the histogram showing the frequency of data relating to a particular quality problem. The histogram when plotted from selected variables will indicate the type of distribution a

particular variable display, such as whether it has a normal distribution or the distribution is symmetrical.

Coupled with the above is the cause-and-effects diagram. A cause-and-effect diagram is a chart that identifies potential causes for particular quality problems. It is also called a fishbone or Ishikawa diagram, and it is a graphical description of the elements of a specific quality problem and the relationship between those elements. The “head” of the fish is the quality problem, such as too much salt in a pizza or broken frame of a spectacle. The diagram is drawn so that the “spine” of the fish connects the “head” to the possible cause of the problem.

These causes could be related to the machines, employees, measurement, environment, materials and process. Each of these possible causes can then have smaller “bones” that address specific issues that relate to each cause. Another tool is the scatter diagram. A scatter diagram is a tool useful in detecting the amount of correlation, or the degree of linear relationship, between two variables. The greater the degree of correlation, the more linear is the observation in the scatter diagram. On the other hand, the more scattered the observations in the diagram, the less correlation there is between the variables. For example, increased production speed and number of defects could be correlated positively; as production speed increases, so does the number of defects. Two variables could also be correlated negatively, so that an increase in one of the variables is associated with a decrease in the other

Firms use control charts to evaluate whether or not a process is in control. This involves taking samples at regular intervals from the output of the process to identify the quality defect. These tools are such that workers at all levels can use them easily. Employees at all levels, in a production plant for instance use process flowcharts, Pareto charts, run charts,

cause-and effect diagrams, and histograms to measure adherence and conformity to documented processes and specifications. In effect, techniques and tools are vital to support and develop the quality improvement process.

3.5 The Concept and Theories of Total Quality Management.

Since the 1980s, Total Quality Management (TQM) has been considered as one of the most popular management philosophies or theories by which enterprises enhance their management capabilities, improve performance, and achieve business excellence (Dahlgaard-Park, Chen, Jang, & Dahlgaard, 2013; Fu, Chou, Chen, & Wang, 2015; Dahlgaard, Reye & Chen, 2018). Although there are many definitions of TQM there is a general consensus regarding the essential principles, practices, and values of TQM (Kumar, Grosbois, Choisne &Kumar, 2008; Yang, 2006). Therefore, coming out with one single definition for the term TQM is not an easy task as almost every writer on the subject has their own definition, by and large devising it to suit their own beliefs, prejudices and business and academic experiences.

To some degree this is also true in the organizations that have introduced a TQM approach to managing their business (Martínez-Lorente et al., 1998). The challenge of not having a one uniform definition has resulted in the proliferation of unique definitions which confounds comparisons and adds to the difficulties of understanding as well as analysing the term. Notwithstanding the publication of an international definition of TQM in ISO 8402 (1994), there is ample evidence that writers and researchers do not stick to this definition and create their own unique offering (Martínez-Lorente et al., 1998). To buttress this argument, Hackman and Wageman (1995) postulated that, large number of interventions not related with

TQM is being encompassed under the TQM banner, and this further complicates the issue of definition and understanding.

Mele and Colurcio (2005) provided an all-encompassing definition of TQM as the systemic and global approach to firm management based on process and continuous improvement of business performances by all human resources in order to satisfy explicit or implicit expectations of customers and other stakeholders. TQM may also be defined as managing the entire organization so that it excels in all dimensions of products and services important to the customer. Total quality management therefore has two fundamental operational goals, namely a) careful design of the product or service b) ensuring that the organization's systems can consistently produce the design. These two goals can only be achieved if the entire organization is oriented toward them- hence, the term total quality management (Edu, 2013).

An extensive theoretical investigation by Powell (1995) posited that TQM is the mutual cooperation of everyone in an organization and associated business processes, in order to produce products and services which meet, and even exceed the needs and expectation of customers.

Kwamega (2015) also indicated that TQM is a management system that takes into consideration all the areas of the operations in an organization. He went further to state that, since the 1980s businesses and organizations around the globe have launched TQM programs in an attempt to retain or regain competitiveness in order to achieve customer satisfaction in the aspect of increasing competition from around the world in this era of globalization and internationalization. Fening (2012) defined TQM as a concept that focuses on managing the total organization to deliver quality to customers and identifies employee involvement, focus

on the customer, benchmarking and continuous improvement as the four significant elements of the concept.

TQM definition addresses factors such as customer focus and satisfaction, employee training, leadership and top management commitment, teamwork, employee involvement, continuous improvement and innovation, quality information and performance measurement in an extensive theoretical study by Sila and Ebrahimpour (2002). The International Organization for Standardization further defined TQM as coordinated activities aimed at the control and direction of the organization towards quality. There are, however, divergent views on what the exact interpretation of TQM is. In exploring the literature it was detected that, some authors share similar view that the following factors are common elements that constitute TOM: leadership, strategic quality planning, employee management and involvement, supplier management, customer focus, process management, continuous improvement, information and analysis, knowledge and education, and quality management tools and techniques (Gotzamani, Theodorakioglou& Tsiotras, 2006, Rahman & Siddiqui 2006; Russell & Taylor, 2011; Drew and Healy, 2006; Tari, 2005).

Despite the divergence in the exact interpretation of TQM, many authors touched on a number of common elements running through the various definitions. From the various definitions, it is also evident that there is no unique definition of the TQM concept rather the dominant issues are customer satisfaction and continuous improvement in all definitions of TQM. From a cursory review of the award-based and academic-based frameworks, Sharma and Kodali (2008) found that there are some elements or factors which are common across various frameworks, while many elements or factors differ considerably. The key concept in the

practices and implementation of TQM is ensuring that all activities of the organization are coordinated together to satisfy the customer.

Therefore, the key concept in the practices and implementation of TQM is tailored at seeing to it that activities of the organization are well planned and coordinated to give the customer maximum satisfaction. Although TQM has been extensively researched for many years now, there is still significant interest in and need for empirical studies on TQM given the fact that many organizations still adopt and implement TQM and its diffusion is on the increase globally (Grosbois et al., 2008).

TQM is a well-established field of study for business excellence, the success rate of TQM implementation is not very high. The major reason for TQM failure is the tendency to look at TQM as a tool and not as a system (Mallur Hiregouder & Sequeira, 2012). They further emphasized that although TQM is a proven approach for success in manufacturing, services and the public sector, several organizations failed in their campaigns because of many reasons like not focusing on customers, lack of top management commitment, employees training, etc. It is therefore necessary for implementers of TQM to understand what the reliable and valid success factors of TQM are, and how these factors influence operational excellence. In reviewing the literature, the most commonly used critical TQM factors cited are top management commitment and support, customer focus, supplier's quality management, design quality management, quality data reporting, usage of quality control tools, training, work environment and culture, employee involvement, employee empowerment, quality related training, product quality, and supplier's performance (Martinez-Lorente et al., 1998; Psomos &Fotopoulos, 2010; Salaheldin, 2008)

Alongside these factors identified both in theoretical and empirical studies, there are standardized quality models used by firms in practice as a guide for their implementation, or in order to carry out self-evaluations of their quality practices. The main models are the Malcolm Baldrige National Quality Award model in the USA, the European Foundation for Quality Management (EFQM) model in Europe and the Deming Application Prize model in Japan. The Malcolm Baldrige National Quality Award model lists seven categories as the main concepts and values in quality management: leadership, strategic planning, human resources orientation, process management, information and analysis, customer and market focus and business results. The EFQM model consists of principles including leadership, employee management, policy and strategy, alliances and resources, process management, people result, customer results, society results and key results (Nabitz, Klazinga & Walburg, 2000).

Also, the Japanese model is grouped into ten chapters, which are in turn divided, as in the two previous models, into a number of sub criteria in the following ways; policies, organization, information, standardization, development and usage of human resources, activities ensuring quality, activities for maintenance and control, activities for improvement, results and future plans. These quality award models have become a standard by which industries are evaluated and awarded for quality initiatives. The models have further contributed to the improvement of quality programs in industries' production processes.

3.6 Critical Success Factor for TQM Implementation

The transformation to a TQM organization depends on the extent to which firms successfully implement certain quality management practices. TQM practices include top management

support such as customer relationship, supplier relationship, workforce management, quality information, product/ service design, and process management (Jahangiri, 2017). Critical Success Factors (CSFs) are those which are critical to the success of any organization in the sense that, if objectives associated with the factors are not achieved, the organization will fail perhaps catastrophically. Generally speaking, the CSFs can be defined as the critical areas which an organization must accomplish to achieve its mission by examination and its categorization of its impacts (Oakland, 1995).

Critical Success Factors also represent the essential ingredients without which a project stands little chance of success (Jahangiri, 2017).It is therefore unsurprising that Salaheldin (2008) referred to CSFs as those things that must go right in order to ensure the successful implementation of TQM. Several authors have derived their set of critical success factors. Although there are slight differences in these factors, most of the authors concluded on similar factors, commonly including top management commitment, customer focus, employee relations, process management, continuous improvement, education and training and Reward, Supplier quality Management and team work and communication (Antony, Leung& Knowles, 2002) as discussed below.

3.6.1 Top Management Commitment and Leadership

A predominant issue in quality management literature is that strong commitment from top management is vital. This therefore means that, leadership is very critical in implementing TQM system. The involvement of top management directly helps in rapid decision making and facilitate journey of the organization (Zakuan et al., 2012). Top management commitment can be defined as an active and visible support or commitment from the management of the

organization, often in the form of a champion for the application (Chrusciel & Field, 2003). The concept of leadership is the ability for top management to establish, practice and lead a long-term vision of an organization. Henfusky (1995) as cited by Zakuan (2012) pointed out that top management commitment leads to the establishment of quality policy, quality management structure, attraction of a whole staff, and disseminate information on quality and stimulating improvement.

Recognition of the critical role of leadership and its responsibility in pursuit of continuous quality improvement echoes the arguments put forward by quality gurus such as Edward W. Deming, Joseph M. Juran and Philip Crosby. The European Foundation for Quality Award (EFQA) and the Malcolm Baldrige National Quality Award (MBNQA) further recognize the crucial role of leadership in creating the goals, values and systems that guide the pursuit of continuous performance improvement. Jahangiri (2017) concluded that when top management is committed to quality, adequate resources will be allocated to quality improvement efforts. In other words, allocation of adequate resources to quality improvement efforts can be one of the manifestations of top management commitment to quality. Lack of top management commitment is one of the reasons for the failure of TQM.

3.6.2 Customer Focus

TQM value also emphasize on customer focus in implementing the TQM system. Customer focus is imperative in today's competitive business environment as customer churn is increasing at an alarming rate. Karani and Bichanga, (2012) gave the definition of customer focus as seeking to determine the needs and expectation of customers and taking action to continuously satisfying them. A successful firm places the customers first in making every

decision. The key to quality management is maintaining a close relationship with the customer in order to fully determine the customer's needs, as well as to receive feedback on the extent to which those needs are being met. Product design and development process should be done by closely involving the customer at every stage so that there is less likelihood of quality problems once full production begins.

Deming (1986) urged that the customer is the most important part of the production line; products should be aimed at the needs of the customer. Obtaining customer complaint information is to seek opportunities to improve product and service quality. Quality complaints have different problems that require different actions. To improve customer focus efforts, customer complaints should therefore be treated with top priority in the implementation of TQM. Furthermore, obtaining customer satisfaction information is essential for pursuing customer focus efforts. Intensive examination of finished products from the viewpoint of the customer can be a useful predictor of customer satisfaction. Such information includes data on field failures and service-call rates, and analysis and reporting of customer attitude trends regarding product quality.

3.6.3 Employee Involvement

Zakuan et al., (2012) described employee involvement as a process for empowering employees to participate in managerial decision-making and improvement in activities appropriate to their levels in the organization. Employee involvement is the degree to which employees in a firm engage or participate in various quality management activities, employees who personally participate in quality management activities, acquire new knowledge, see the benefits of the quality disciplines and obtain a sense of accomplishment

by solving quality problems. A remarkable characteristic of employee participation is teamwork (e.g., cross-functional teams and within-functional teams), employee suggestions, and employee commitment. This, according to Barker and Cagwin (2000) leads to significant savings by reducing defects and the need for rework.

In terms of production workers employees should regularly participate in operating decisions such as planning, goal setting, and monitoring performance.In order to achieve the benefit of effective employee involvement, contributions and ideas made by employees must receive serious consideration and be placed into operation whenever the recommendations are sound and relevant. Employee involvement is one of the key elements that differentiate an organization from the other. Other things such as product, service establishments, process, and secret ingredients can ultimately be duplicated.Therefore, it suggests that 'employee involvement", if well implemented, changes the fundamental relationship between individuals and the organization they work for. And it also builds employees in as a business partner, so they know more and they do more to make the organizations successful (Zakuan et al., 2012).

3.6.4 Education and Training

Education and training form vital parts of TQM. Education and training are some of the key elements of total quality in which many people are involved (Russell and Taylor, 2011). Therefore, the success of the implementation depends directly on how well they have been done. In his 14 points contribution to TQM, Deming emphasizes that, organizations must institute vigorous education and training programs in methods of quality improvement throughout the organization, from top management to lower management, so that continuous improvement can occur (Russell and Taylor, 2011). Many research results reveal that

education and training is one of the most important elements in a successful implementation of total quality management (Zhang & Wijngaard, 2000).

The research confirms what most organizations already realize, namely, that education and training are an integral and essential part of the TQM initiative (Zhang& Wijngaard, 2000). Investment in education and training is vitally important for TQM success. In an organization, all of the management, supervisors, and employees should accept quality education and training. Quality education and training include quality awareness education and basic quality management methods, such as statistical process control, problem solving methods, basic tools and techniques

3.6.5 Supplier Quality Management

Supplier quality management is defined as the set of supplier related quality management practices for improving suppliers 'quality of products and services (Karani & Bichanga, 2012). This is exemplified by firm-supplier partnership, product quality as the criterion for supplier selection, communication with suppliers, and understanding of supplier performance and supplier quality audit (Zhang, 2000). The Malcolm Baldrige Quality Award also recognizes the importance of supplier quality.

Many authors advocate that companies must establish supply chain partnerships to motivate suppliers to provide materials needed to meet customer expectations (Lau& Idris 2001; Thiagarajan, Zairi, &Dale, 2001). Furthermore, having effective supply chain management can contribute to the quality performance in many ways. Regular supplier evaluations help organizations to share information and improve mutual understanding. Long-term partnerships/relationships with suppliers also help the parties involved to solve quality

problems and invest in quality improvement efforts (Pun et al., 2002). Supplier partnership is a means of developing relationships with suppliers to ensure that they understand the customer's specific requirements and needs. Further, reducing the number of suppliers provides better control and fosters a mutually beneficial climate of continuous improvement (Chartered Institute of Procurement and Supply: Supplier Management, 2017). Motwani (2001) suggested that suppliers/vendor partnerships should be based on a quality program and accepted documentation of progress towards continuous improvement in quality.

3.6.6 Process Management and Continuous Improvement.

Process management focuses on managing the manufacturing process so that it operates as expected, without breakdowns, missing materials, fixtures and tools. The philosophy that seeks to improve all factors related to the process of converting inputs into outputs on an ongoing basis is called continuous improvement (Stevenson 2014). To simplify it, Stevenson (2014), stated that it covers equipment, methods, materials, and people. Under continuous improvement, the old adage, “If it isn’t broke, don't fix it" gets transformed into “Just because it isn't broke doesn't mean it can't be improved’. Balbastre and Moreno Luzo'n (2003) emphasized that, the focus of continuous improvement is closely linked to process management and have two clearly defined objectives.

That is, on one hand, there is a controlled variability of processes in order to ensure conformity in the execution of a pre-established design, thereby achieving homogeneity and a lack of errors or waste. On the other hand, it enables improvement in the processes because it allows us to understand them better as it employs a large variety of techniques, such as applied statistics techniques.

3.6.7 Reward and Recognition

Recognition is seen as the public acknowledgment of superior performance of specific activities. Abdullah etAl., (2008) reiterated that rewards are benefits, such as increased salary, bonuses, and promotion which are conferred for generally superior performance with respect to goals, and organization's total quality management initiative must be supported with a recognition and reward system that encourages and motivates employees to achieve the desired performance. Organizations that are serious about achieving quality and customer satisfaction must integrate these aspects of TQM into their recognition and reward system. Many other writers have also highlighted the importance and criticality of the rewards and recognitions in the quality improvement process (Rao et al., 1999; Dayton, 2001; Li et al., 2001; Everett, 2002).

Russell and Taylor (2011) further explain that, employee's satisfaction is increased when achievement is reinforced through rewards and recognition. Recognition and reward activities in organizations should effectively stimulate employee commitment to quality improvement activities otherwise these activities are failures (Zhang, 2000). Zhang (2000) enumerates that some methods of recognition and rewards include working condition improvements, salary increments, position promotions, financial awards for excellent suggestions. Other writers have also highlighted the importance and criticality of the rewards and recognitions in the quality improvement process (Dayton, 2001; Everett, 2002).

3.7 Critical Success Factors for Implementing TQM and SMEs Performance

Extensive review of the literature on CSFs for TQM portrays a common assumption that these CSFs positively impact on operational performance (Zakuan et al, 2012; Salaheldin, 2009;

Yusof and Aspinwall, 2010,Powell, 1995; Sila, 2007). They mentioned that firms that have implemented TQM achieve business excellence whereas non – TQM firms are to fail in business performance. Firms that have adopted TQM are characterized by improved delivery performance, reduced production costs, increased productivity, improved flexibility, reduced scrap and improved the quality of products.

A research conducted by Salaheldin (2009) on the CSFs for TQM implementation and their accompanying impact on performance of SMEs revealed that TQM CSFs are positively related with operational performance of SMEs in Qatar. He categorized his model in three levels, namely strategic, tactical, and operational factors. The entire model contained 24 CSFs which are expected to enhance the practices of TQM implementation in SMEs. Tactical factors have a strong impact on operational performance. Thus, the higher the degree of employee's empowerment, employees training, quality suppliers, employee's involvement displayed by the SMEs, the greater their influences on operational performance. This consequently results in success of TQM implementation.

The study finally concluded that CSFs and operational and organizational performances are positively related and interdependent. A finding of this study was in consistence with the findings similar studies conducted in other developed countries (USA, Japan and Far East) (Salaheldin, 2009). Yusof and Aspinwall (2001) also conducted a study on the CSFs of TQM implementation in UK automotive SMEs. They posited that some automotive SMEs have not considered CSFs in their quest to implementing TQM for that matterthey have low level of TQM practice. The automotive SMEs that have used the CSFs are perceived to have higher business performance than those who have not.

According to Yusof and Aspinwall (2000) the finding from the survey revealed that CSFs are crucial for TQM implementation in SMEs. Ketikidis, Koh, Gunasekaran, Demirbag, Tatoglu, Tekinkus, & Zaim (2006) also conducted a research on Turkish SMES. They analyzed the relationship between TQM implementation and organizational performance of the selected SMEs. The study discovered the positive effect of the critical success factors of TQM on financial performance. These findings indicate that financial performance measures such as revenue, net profits, sale turn over, return on assets, and profit are partially explained by the implementation of TQM practices. On the other hand, TQM practices provide a better explanation on financial performance through non-financial performance criteria such as market development, market orientation and investment in research and development. In a similar vein, nearly 40% of variation in financial performance is explained indirectly by quality practices. The most important quality practices were found to be training, employee relations, and quality data and reporting. Hence, companies should be encouraged to develop formal reward and recognition systems to encourage employee involvement and participation, support teamwork and provide feedback to the employees.

Based on the study's findings, the least important factor was found to be the role of top management. This is contrary to most works which indicate that success of TQM applications hinges on strong leadership that must be initiated by the top management. Quality improvement plans proposed by several gurus strongly emphasize the commitment of top management. The top management of the organization is directly responsible for determining an appropriate organization culture, vision, and quality policy. Top managers should also determine objectives, and develop specific and measurable goals to satisfy customer expectations and improve their organizations' performance. In order to enhance net profit and

revenue as well as to reduce cost of quality, managers must convey their priorities and expectations to their employees.

The success of a TQM program increases when its implementation is extended to the entire company. This enables the formation of the corporate culture and the permeation of the new business philosophy into every facet of the organization (Ketikidis et al 2006). It is evident from the literature that CSFs are the enablers of operational or business performance (Salaheldin 2009; Yusof and Aspinwall, 2000; Yusof and Aspinwall, 2001; Ketikidis et al 2006).

3.8 Challenges of TQM Implementation

The extent literature above signifies a positive relationship between successful implementation of TQM and operational excellence in SMEs. Nonetheless, there are still many companies that attempt a variety of quality improvement efforts and find that they have not achieved any or most of the expected outcomes. The most important factor in the success or failure of TQM efforts is the genuineness of the organization's commitment (Reid and Sanders, 2013). Companies often times addressed TQM as another business change that must be implemented due to market pressure without really emphasizing on the internal issues within the organization (Reid and Sanders, 2013). It is important to note that TQM is a complete philosophy that has to be embraced with true belief, not mere lip service. Reid and Sanders (2013) further reiterated that organizations that addresses TQM as a short-term financial investment is a sure recipe for failure in the implementation of the concept.

A further recipe for failure is when responsibility for quality improvement and elimination of defects is solely left with employees other than top management involvement. It is a "let the

workers do it" mentality (Reid & Sanders, 2013). A third common mistake emphasized by Reid and Sanders (2013) is when quality managers over- or under-rely on statistical process control (SPC) methods. It should rather be seen as a tool for continuous improvement and necessary for identifying quality problems. According to Mallur et al. (2012) and Mann and Kehoe (1995), several literatures reviewed, identified the reasons for the failure of TQM. Prominent among them are;

- Failure of top management to commit to TQM.
- Firm not focusing on customer
- Lack of rewards and recognition
- Obsolete technology/ method
- Lack of establish a guiding frame work for TQM.
- Inability to change institutional culture.
- Lack of understanding or inadequate knowledge of TQM.
- Funding problems (No budget, no sponsor)
- Inflexible and highly bureaucratic institutional structure.

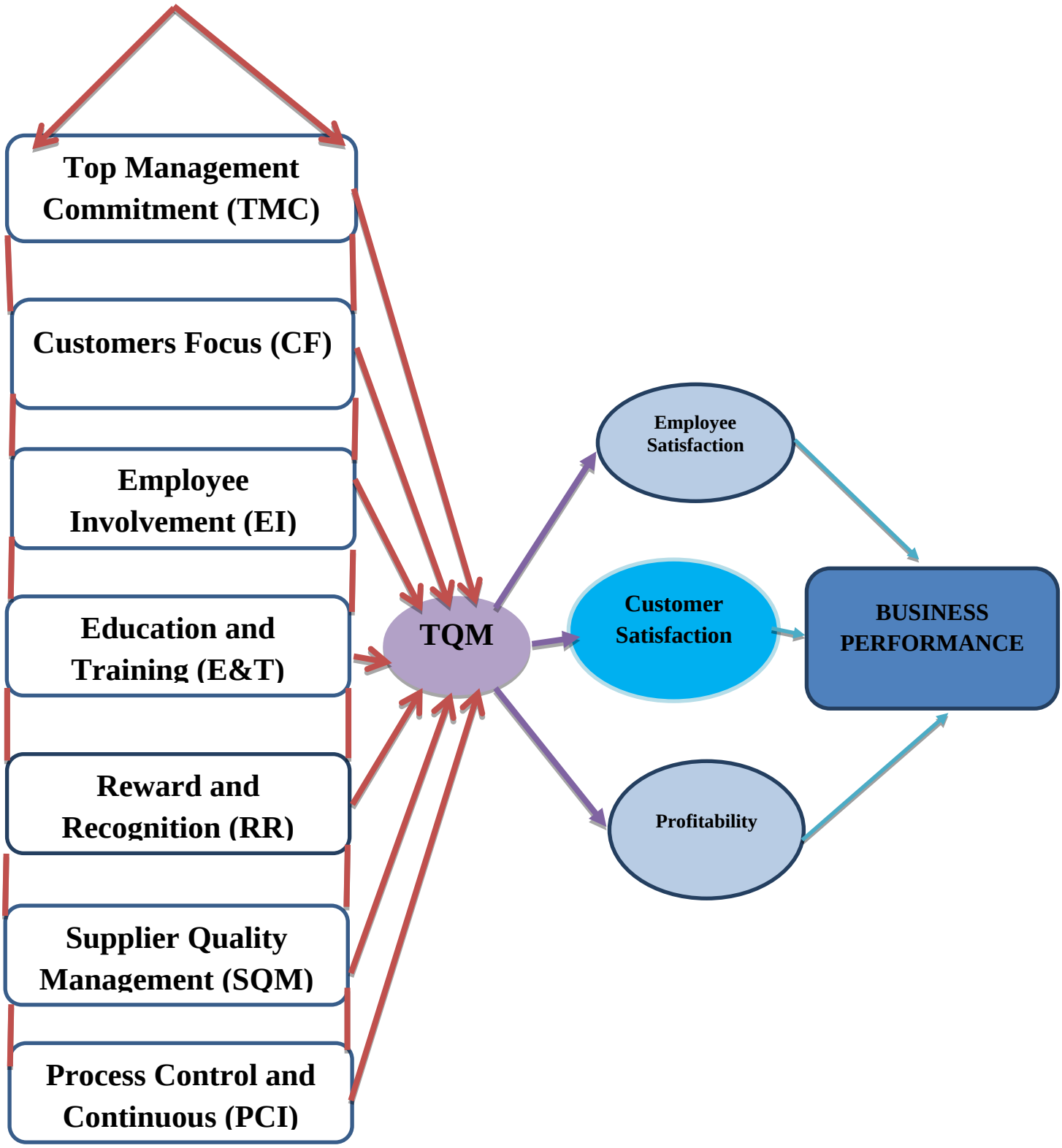
For firms to enjoy the full benefit of TQM implementation success, efforts must be made in clearing away all the obstacles such as the aforementioned.

3.9 Conceptual Model

The reviews from theoretical and empirical literatures indicate that the issues of TQM and organizational performance have been widely studied. However, only a few organizations have completely implemented it while others only adopt a portion of this theory, and yet some organizations do not totally implement TQM in their organization.

The Figure2 below explores how organizations can use CSFs to successfully implement TQM through which, customer satisfaction, profitability and employee satisfaction together translate into goodbusiness performance.

Figure 2: Authors Conceptual Framework



3.10 Business Performance

Using these key critical success factors or values (TMC, CF, EI, ET, RR, SQM and PCI) in TQM implementation results in employee satisfaction, profitability and customer satisfaction (Salaheldin, 2009). In the long run, the positive effect of these results is translated into high organization performance. The performance among other things will include

3.10.1 Profitability

The ultimate goal of all profit organizations is the maximization of the returns on every investment made and hence the profitability. Against this backdrop, all managerial decisions including the adoption and implementation of TQM are aimed at enhancing the financial performance and standings of the organization.Curkoviv et al., (2000) purported that, the implementation of the critical success factors or elements or principles of TQM directly affect the financial measures such as pre-tax ROA, after-tax ROA, ROI, market share and, indirectly affectthe same variables through the improvement of the dimensions of quality such as reliability, durability, responsiveness to customers.

Sila (2007) also found that investment in quality and the implementation of TQM led to an improvement in sales, return on asset and market share. In summary, the following relationship between TQM and financial and market performance has been identified in the quality literature: improving product quality through the reduction of waste (lean production) and improving the efficiency of production will increase the return on asset which will increase profitability (Curkoviv et al., 2000; Sila, 2007). Improvement in quality will lead to an increase in the level of satisfaction of customers, and consequently results in greater

loyalty. This in turn enables the firm to increase sales and enhance the competitive position of the firms (Bergman and Klefjo, 2007).

3.10.2 Customer Satisfaction

To a larger extent, all the practices surrounding TQM are due to the final customers or consumers out there whose needs and expectations are to be met in order to satisfy them. An organization's success in the long-run is largely determined by the degree to which it is able to satisfy its customers. Deming (1986) argues that the most important parameter for measuring the outcome of TQM practices is customer satisfaction. According to Sila (2007), improving the level of quality of an organizations process has a resulting impact on elimination of defect in a product. This in turn offers the customer quality product or superior services. Resulting in customer loyalty, referrals to friends hence increased sales.

3.10.3Employee Satisfaction

As an internal customer to the organization, employees receive maximum consideration during TQM implementation. As have been seen in the previous sections, all researchers dealing with the identification of factors critical for the success of TQM program included an aspect that directly or indirectly aims at empowering employees to meaningfully contribute to the quality of the final product. Through employee involvement, empowerment, training and education TQM has been found to correlate positively with employee satisfaction. Shea and Gobeli (1995) found out that the implementation of TQM by small businesses improved the capabilities of employees, increased employee performance and retention, reduced employee turnover, improved employee morale and an overall employee loyalty to the company. Sila (2007) contends that TQM implementation physically and psychologically impacts positively

on the working environment within the company. In such situation's employees have a greater sense of belongingness within the organization which apparently reflects in the productivity of the entire organization. In conclusion, for TQM to be well implemented, these values must be communicated at all levels within the organization, thus, strategic level, tactical level and operational level of the organization.

CHAPTER FOUR

RESEARCH METHODS

4.0 Introduction

This chapter presents a methodological framework for the study. It provides an overview of the methods that the researcher selected in carrying out the research so as to address the research problem and achieve the purpose of the study. In quoting Potter (1996), "methods are the tools used in a study while methodology is the blueprint of the study." Research methodology is the procedural framework within which a research is conducted (Saunders, Lewis and Thornhill, 2009). According to Leedy and Ormrod (2001), in executing a research study, the general approach employed in the project is referred to as "Research Methodology".

Again, research methodology is defined as the manner in which the researcher examines and looks for solutions to pre-defined/already existing research problems (Taylor and Bogdan, 1984). In view of this, this research method explores the research design and approach, research area, the population under study, size and type of sample and sampling techniques, process of collecting data and data instrument, data analysis as well as ethical consideration.

4.1 Research Paradigm

A research paradigm represents a composite of certain beliefs, techniques, values and norms that are commonly shared by a particular scientific community and act as a guide to what and how research problems are addressed. Research paradigm also provides acceptable explanation within a given scientific community (Kuhn, 2012). Chan (2015) mentioned that,

the widely noted paradigms are positivism, interpretivism, realism, relativism and critical realism. Each of these paradigms has different level of epistemology, ontological and methodological proposition. In this research, the researcher adopts a positivist methodological paradigm.

Positivist paradigm is explained as the worldview to research, which is grounded in what is research, and known in research methods as the scientific method of investigation (Kivunja &Kuyina, 2017). According to Kivunja &Kuyina, (2017), the positivist paradigm is used to search for cause and effect relationships in nature. This study chooses the positivist paradigm because the research seeks to interpret observations in terms of facts or measurable entities. In addition, the positivist paradigm ideology is preferable due to its suitability in formulating questions and trying to answer them empirically under carefully controlled circumstances and which is usually applicable to quantitative research and based on deductive reasoning. Using a positivist approach to this study, therefore provided the researcher with an opportunity to explore and empirically test TQM practices among SMEs in Ghana, examine plausible factors that influence TQM implementation as well as to find out how and/or in what ways this concept influences business performance of SMEs in Ghana through the use of quantitative techniques.

4.3 Research Design

Kothari (2004) gave the definition of research design as a plan and guideline that indicate the strategy of an inquiry appropriate for a research. Research design is a framework or blueprint or a road map for conducting a research project (Kuada, 2015). In explaining research design, McGivern (1998**)** indicates that it serves the purpose of helping organize the research project

in a way that gave evidence relevant to address the research problem in a manner as "accurately, clearly and unequivocally" as possible. As a result, the various activities of the research such as sample of the research, sources of data to use for the research, data collecting instrument, target population and techniques of analysis are all shaped by the research design (Ghauri & Grønhaug, 2005). Ghauri and Grønhaug (2005) further adds that the research design invariably exposes the classification of research (whether exploratory, descriptive or casual) and the priorities of the researcher which are reflected in the purpose of the research. According to Saunders et al (2009), most research methods literature group the purpose onto three classes as follows: exploratory, descriptive and explanatory. The purpose may sometimes be more than one, this was likened to how some research question can both be descriptive and explanatory (Boateng, 2016). Also, Saunder et al. (2009) highlighted that exploratory research is usually largely suitable in situations characterized by uncertainty in the exact nature of the problem.

Descriptive research, as the name suggests "portrays an accurate profile of persons, events or situations" (Robson, 2002; p.59). In addition, Malhotra and Birks (2006) postulate that the major goal of descriptive research is to describe something, such as, market characteristics or functions.

In conducting a descriptive research, Saunders et al. (2009) are of the view that the formulation of specific research questions and hypotheses precedes data collection; therefore, the researcher needs to understand the phenomena on which (s) he wishes to collect data before collecting it. As a result, descriptive research is pre-planned and structured, as the information needed is clearly defined. It is most appropriate for surveys, because it is based on large representative samples.

Again, Malhotra and Birks (2006) are of the view that descriptive research design lays down the methods for selecting data sources and how to collect data from those sources. This research is descriptive in nature as it tries to describe the concept of Total Quality management so as to give further insights on the concept within the Ghanaian SMEs context, as well as find out in what ways this concept influences SME performance and sustainability.

4.3 Research Approach

In conducting a research, it is very important to select an appropriate study method to obtain more valid statistical results. Research method for any study can be quantitative, qualitative or mixed method. This research is conducted through the quantitative approach and which entails systematic empirical studies and involve mathematical and statistical works. The questionnaire method of collecting data was used. The rationale for a quantitative method is influenced by the choice of research design and the theoretical perspective of the study, flexibility, cost effectiveness and validity of findings.

Quantitative research involves the use of structured questions where the response options have been predetermined and a large number of respondents are involved (Boateng, 2014). A researcher is able to measure and analyze data as well as establish a detailed relationship between an independent and a dependent variable using the quantitative approach. This is possible because quantitative research gives room for more objectivity about the findings of the research. A quantitative technique is developed to measure the extent to which the critical success factors of TQM implementation ensure implementation and also their impact on overall business performance of SMEs inGhana

4.4 Study Population

The target group the researcher is interested in studying in order to ascertain information and be able to draw conclusions is described as the study population (Leedy and Ormrod, 2001). For the purpose of this research, the population of the study constituted owners and managers, employees and customers of SMEs operating in manufacturing and service sectors in the Greater Accra Region of Ghana. Greater Accra has a total of 33,699 SMEs. Out of the aforementioned number, 33,546 SMEs are found to be operating in the manufacturing and service sectors in Accra. Specifically, 5,526 SMEs are in the manufacturing industry (4,929 small sized and 597 medium sized) accounting for 17% of the SMEs population in Accra. Also, 28020 (24,187 small sized and 3833 medium sized) SMEs representing about 83 % of total SMEs in the region (GSS IBES, 2015) are in the services sector. This thesis purposively focuses on the manufacturing and service industries.

4.5 Sample Size

A sample is a subgroup of the elements of the target population selected for participation in the study (Boateng, 2016; Malhotra & Birks, 2007). Sample size has an effect on the accuracy of the representation of the population (Boateng 2016; Burns and Bush 2014). The sample size was determined based on Yamane (1967) sample size calculation.Yamane (1967) formula is given as $n = N / (K+ Ne^2)$, where N= population of study, K= Constant (1), e=degree of error accepted and at a 95% confidence level and = 0.05.

The sample was further grouped into small and medium firms for both manufacturing and services SMEs. This resulted in four strata. GSS- IBES regional special business report (2015) indicates that there are a lot of small firms than there are medium in Accra. Therefore, to get a

proportionate representation, a lot of the small firm in both sectors will be considered. Based on the study population and using Yamane's formula for sample determination, 395 respondents were selected to constitute the sample size for the study from the 33,546 firms constituting the study population calculated as $n = 33546/ (1 + 33,546 (0.5)^2 = 395$.

In order to ensure equitable distribution of respondents among the categories of SMEs for effective representation, proportionate sample size determination was used to determine the number of firms to be selected for each cluster. For example, stratum 1, the number of SMEs was computed as 395* 4929/33546 =58. Thus 58 small manufacturing firms were be chosen for the study. The samples sizes for strata 2, 3 and 4 are computed similarly as given in Table 4.1 below.

Table 4.1: Sampling Procedure for SMEs

STRATA	**MANUFACTURING**		**SERVICES**		**PROPORTIONATE NUM. OF FIRMS**	**SAMPLE SIZE**
	Small	Medium	Small	Medium		
Stratum 1	4929	-	-	-	174	58
Stratum 2		597	-	-	21	7
Stratum 3	-	-	24187		855	285
Stratum 4	-	-	-	3833	135	45

Stratum1: Small Manufacturing Firm

Stratum2: Medium Manufacturing Firm

Stratum3: Small Service Firm

Stratum2: Medium Service Firm

One owner/manager, one employee (operations/ production staff) and one key customer were chosen from each of the selected firms to take part in the study. Thus, for small manufacturing

firms, 174 respondents will be used. This is shown in the last but one column of Table 4.1 above. The study will engage one SME owner/manager, one employee and a customer.

SME owner/Director, managers were be chosen as suitable respondents for the research because they mostly take major business decisions such as designing of a product, setting quality standards, production and finance among others and such was believed to better provide the information particularly on TQM. Also, whilst employees are selected because they are the chief implementers of all decisions on TQM and directly deals with the customers. Customers are necessary respondents because quality is best measured or determined by the end user (customer).

4.6 Sampling Procedure

This study employed both probability and non-probability sampling techniques. Probability sampling is a technique in which a sample from a larger population is chosen using a method based on the theory of probability (Boateng, 2014; Daniel, 2012). The most important requirement of probability sampling is that all elements within the population have a known and an equal chance of getting selected. With the probability sampling, stratified random sampling technique was used to select firms in each stratum for the study.

Non-probability sampling is a sampling technique where the samples are gathered in a process that does not give all the individuals in the population equal chances of being selected and it includes purposive sampling as selected for the study (Boateng, 2016). According to Boateng (2016), Purposive or judgmental sampling is a strategy in which particular settings, persons are selected deliberately in order to provide important information that cannot be obtained

from other choices. Here, the researcher includes cases or participants in the sample because the researcher believes that they warrant inclusion (Taherdoost, 2016).

However, in order to allow for the use of both probability and non-probability sampling in the framework of the current study, the study adopted the multistage sampling technique; where two or more sampling techniques are merged in selecting sample respondents for the a given research. The application of the multistage sampling technique initially involved the stratification of the SMEs into medium and small, and also into service and manufacturing SMEs. The next stage after stratifying the SMEs into medium and small, as well as services and manufacturing involve the purposive selection of sample from each of the identified strata based on the sample size for the study. As a result, purposive sampling was used in selecting owner/manager, employee and customers as they were considered key for the success of the study.

4.7 Sources of Data and Data Collection

The study seeks to employ data from both primary and secondary sources to ensure a thorough understanding of the dynamics of TQM. The primary data sources include data which was collected by the researcher for the first time. To aid in the collection of primary data, research instruments such as questionnaires, expert interviews and discussions were used to facilitate obtaining the desired data. Specifically, the questionnaires were help in obtaining information such as the characteristics of SMSs, level of awareness among business owners and managers on TQM, perception and implementation status of TQM, implementation of critical success factors in TQM, and the level of customer satisfaction following implementation of TQM practices.

Also, the study as indicated engaged data from secondary data sources. Secondary data include all data collected from already existing sources and have been subjected to manipulation by previous research works. As a result, secondary source of data was obtained from literature, institutional archives such as the Ghana Statistical Service on the classification of SMEs in Ghana as well as other relevant literature cited.

4.8 Data Analysis and Presentation

After data collection, the raw data was initially edited to ensure coherence and completion of uncompleted questionnaires. The data was then analyzed through a systematic process of selecting, categorizing, comparing, synthesizing and interpreting data to provide explanation and make meaning. Data was analyzed by way of descriptive statistics to analyze data using SPSS version 26 Software and analytical technique Partial Least Square Structural Equation Model (PLS- SEM) and through the use of Smart PLS software.). While the SPSS was used in the determination of relationship between variables, the PLS-SEM was adopted for this study because, it reduces the amount of unexplained variance and it can easily handle complex models with many structural model's relationships among them (Hair, Ringle, & Sarstedt, 2017). More importantly, the PLS-SEM easily integrates reflective and formative measurement. Preliminary data analysis was done to clean and eliminate unengaged responses. The expected output was continuous improvement in SMEs' performance leading to Operational excellence.

4.9 Assumptions, Validity and Reliability Test

The assumptions that were tested are collinearity (using the variance inflation factor values - VIF), composite reliability, convergent validity, discriminant validity and scale reliability (using Cronbach alpha). The assessment of the measurement model is a validation of the indicator variables that are used to measure each construct (endogenous and exogenous variables) in the questionnaire. This is done by calculating the convergent validities using the average variance extracted (AVE), discriminant validity, composite reliability and the internal consistency test using the Cronbach's alpha. The PLS bootstrapping procedure was used to assess the measurement model for each construct.

Hair et al., (2017) recommended guiding principles for determining the relative importance and significance of the factor loadings of each indicator on the constructs. Thus, indicators with 0.5 or more loadings on the constructs are significant. Only these indicators will be included in the model. Hair et al., (2017) indicated that Cronbach alpha and composite reliability with values between 0.70 and above are acceptable. This indicates how reliable the indicators are (Hair et al., 2014). Generally, the accepted measure to establish convergent validity of a construct is the average variance extracted **(AVE) (**Hair et al., 2017). The rule of thumbs with respect to the evaluation of the convergent validity indicates that, the AVE of each measurement construct should be above 0.50. Thus, indicating that, at least 50% of the measurement variance is captured by the latent variable. The convergent validity is the degree to which multiple latent variables that measure the same construct are in agreement. The loadings of each indicator variable on their respective construct should be 0.5 or more (Hair et al., 2017). Indicators load with values less than 0.5 on the constructs are dropped in order to achieve the convergent validity. The average variance extracted therefore measures the

variance which is captured by the indicator variables in relation to the measurement error. The variance inflation factor (VIF) is used to test for collinearity in the model and to reduce the measurement error. The VIF is only for the inner model as it only relates to the exogenous variables. VIF also expresses how much the variance in the regression coefficients have been inflated. Collinearity can cause an error since it can increase or inflate the regression coefficient (Hair et al., 2017; Chin & Newsted, 1999)

4.10 Ethical Consideration

As recommended by Miles and Huberman (1994), ethical considerations are paramount and the onus lies on the researcher to be sincere with respondents, and also treat the confidential information appropriately. Additionally, Bloor and Wood (2006) says ethics are guidelines or sets of principles for good professional practice, which serve to advice and steer researchers as they conduct their work. The word ethics is derived from the Greek word ethos meaning a person's character, nature or disposition. Ethic is also a branch of philosophy which is concerned with thinking about morality, integrity and the distinction between right and wrong. Social scientists typically engage in researching issues and consequently it is inevitable that ethical problems will emerge from their research. This does not mean that researchers should avoid sensitive topics, but rather the methods by which the research is conducted should be ethically justifiable. Again, professional ethics relate to the willingness of a profession to self-regulate its members so as to protect the interests of the public. This research is underpinned professional integrity and responsibilities to research participant. The researcher avoided falsification of or distortion of data or the methods of data collection or plagiarizing the work of others. Finally, the researcher did not also depart from the generally accepted scientific practices for doing and reporting on research.

The responsibilities to research participants include informed consent, protection of identity and the principle of “no harm” (Bloor & Wood, 2006). The researcher sough the permission from the firms whose staff were used for this study. The researcher briefed all participants from the selected firms the nature of the research, what would be required from participation, why it was being undertaken and how the information was disseminated. Again, any data used in this study was voluntarily provided by the selected firms.

CHAPTER FIVE

DATA ANALYSIS AND DISCUSSION OF FINDINGS

5.0 Introduction

This chapter provides a summary and interpretation of the responses obtained from the questionnaires administered. The questionnaire sought to collect information on the level of understanding and implementation of Total Quality Management (TQM) in Small and Medium Scale Enterprises operating in both services and manufacturing sectors in Ghana.

The total number of firms used was 395. The number of firms from each sector used in the study was 330 for firms in services sector and 65 for firms in manufacturing sector. Each firm had 3 respondents comprising of, one Owner/ Manager, an employee and a customer. The researcher issued out a total of 1155 questionnaires. Out of the 395 SME firms sampled, 304 (256 from service firms and 48 from Manufacturing firms), of them filled and issued out at least two of the questionnaires. That is to say some firms filled and issued out all three questionnaires (Owner, Manager and employee) whiles others filled and issued two of the questionnaires (Owner and employee only). A total of 877 out of the 1155 were successfully retrieved indicating a response rate of 75.9%. Questionnaires retrieved from SMEs in service sector were 699 thus 256 from owner/ manager respondents, 256 from employee respondents and 187 customers. In the case of the SMEs in manufacturing sector, 48, 48 and 82 questionnaires were filled and collected from the owners/ managers, employees and customers respectively. Therefore, the sum of questionnaires retrieved from manufacturing SMEs was178.

This chapter is organized in three parts. The first part of this chapter focuses on the demographics of the owners/manager and employees with regards to gender, age and education level. After the demographics, the characteristics of the firms sampled follows by looking at years in business/ years with the firm, type of firm, firm registration status, firms' finances based on data from owners/ managers. Furthermore, TQM practices among SMEs will be discussed and the focus will be TQM awareness, perception level, and satisfaction level of TQM concept as well as review of quality policies by owners/ managers and employees. The second part sought the opinions of respondents on the extent to which the CSFs of TQM implementation facilitates TQM implementation and its resultant impact on Business performance. The second part also presents discussions on customer satisfaction. The last part focuses on Barriers to TQM implementation among SMEs.

The questionnaires were developed with a 3, 5 and 7 points Likert scales, questions with yes or no options and some questions requiring respondents to list or indicate their answers.

5.1 Presentation and Discussion of Respondents Demography

The study sought to identify some demographic groupings of the respondents surveyed for the study. Table 5.1 presents the demographic statistics of respondents.

Table 5. 1: Descriptive Statistics of Respondents

Demographic variable	Frequency (304)	Percentage (%)
OWNER MANAGER:		
Gender		
Male	140	46.1
Female	162	53.3
No Response	2	0.7
Age (in years)		
18 – 24	64	21.1
25 – 34	83	27.3
35 – 44	114	37.5
45- 54	37	12.2
55 and Above	6	2
No Response	2	0.7
Educational Level		
Non-Formal	20	6.6
Primary	105	34.5
Secondary	73	24
University	32	10.5
Professional	71	23.4
No Response	3	1
EMPLOYEE:		
Gender		
Male	167	54.9
Female	129	42.4
No Response	8	2.6
Age (in years)		
18 – 24	34	11.2
25 – 34	113	37.2
35 – 44	121	39.8
45- 54	30	9.9
55 and Above	6	1
No Response	4	1.2
Educational Level		
Non-Formal	72	13.2
Primary	92	30.2
Secondary	50	16.4
University	28	9.2
Professional	49	16.1
No Response	11	3.6

Source: Field Data, (2019).

The total number of owner/ manager and employee were 304 each. With regards to gender, out of the 304 owners/ managers 162 representing 53.3% were female, 140 representing 46.1% were male and 2 did not provide answer on their gender representing 0.7%. Although when it comes to owner/ manager women had the highest, that isn't the case when it comes to employees. Male dominated with 167 representing 54.9% whereas women were129 representing 42.2%. Again, 8 employees representing 2.6% did not respond.

The researcher finding on age indicates that, 21.1% of the owner / managers were between the ages of 18 to 24, representing 21.1% and 27.3% were between the ages of 25 to 34. Owner / managers between the ages of 35 to 44 representing 37.5% were the highest. Also 12.2% were between the ages of 45 to 54 and 2% were above 55 year. With employees ages, majority of the employee respondents were in the 35– 44 age brackets representing 39.8%, followed by respondents in the 25- 34 aged brackets representing 37.2%, employees within 18- 24 represented 11. 2% whilst 9.9% was recorded for those in 45-54 aged brackets. The least was those aged 55 and above representing 1%.

With regards to educational level, majority of owner/ managers representing 34.5% indicated that they have primary education. This is followed by secondary educationrepresenting 24%. Non- formal education had the lowest representing 6.6%. Table 5.1 indicates that majority of the employees had primary education thus 30.2% whilst the least level of education was university education representing 9.2%.

Evidence from the demographicsanalysis of respondents indicates that the ownership/ management of SMEs is dominated by women hence the confirmation of literature reviewed that postulated that lots of SMEs are started and owned by women in Ghana (Aryeetey et al.,

1998). On the other hand, male dominates when with regards to employees. Findings on respondents ages shows that majority of the players in the SME industry are in their youthful and early adult ages, this is true for both managers and employees. This is in accordance with the World Health Organization report (WHO) (2014), which reported that majority of the Ghanaians ages representing about 54% falls within 15 years to 59 years.One critical element used in understanding the behavior of business owners/ managers and employees is their educationalqualification.With regards to educational level, both owner/ managers and employees data portrayed they have lower level of education, that is primary school education. This finding is similar to the finding of Amoako (2013) and Kusi, Opata and Narh, (2015) which indicatedthat, majority of SMEs owners have lower education level.The concept of TQM requires an appreciable level of education hence the collection of data on respondent demography.The level of educational attainment influences the understanding of the importance of proper management practices such as TQM. Further, it is expected that if a business owner has a reasonable level of education it will indisputablyaffect his influence on implementing TQMand other control systems in the business.

5.2 Presentation and Discussion of firm Characteristics

Answers were ascertained from respondents regarding characteristics of the SMEs under study in terms of number of years the owner / manager has operated the business, the number of years the employee has been working in the business and the period of time the customer has been transacting with the business. Further characteristics including the registration status with registrar general, other membership registration, annual budget and source of fund of the SMEs were sought from owner/ managers since they are the ones privy to such information.

The firm characteristics were analyzed separately for SMEs in service sector and SMEs in manufacturing sector too.

5.2.1 Descriptive Analysis of years for SMEs in Services Sector

Table 5.2 shows the statistical findings on owner/ manager, employee and customer respondents on the length of period with the firm.

Table 5. 2:Descriptive Statistics of years for SMEs in Services Sector

Years in Business/ Years with the Firm	Frequency	Percent (%)
Owner/ Manager (256)		
Below 1	73	28.5
1- 3	101	39.5
4- 7	67	26
Above 7	15	5.8
No Response	0	0
Employee (256)		
Below 1	85	33.2
1- 3	88	34.4
4- 7	65	25.4
Above 7	18	6.9
No Response	0	0
Customer (187)		
Below 1	97	51.9
1- 3	39	20.9
4- 7	38	20.3
Above 7	4	2.1
No Response	9	4.8

Source: Field Data, (2019)

The study found out that majority of the SMEs thus the ones having the highest percentage of 39.5% have been in existence for not more than 3 years whilst only 5.8% of the owners indicated they have been in business for more than 7 years. Data on the length of time

employees have worked in the selected service SMEs, majority of the employees representing 34.4% responded that they have been working with the firm between 1 to 3 years. Only 6.9% of the employees indicated they have worked with the firm for more than 7 years.

5.2.2 Descriptive Analysis of Years for SMEs in Manufacturing Sector.

The study sought to find outthe year (s) the firm owner has been in business, year (s) employees have worked and year(s) customers have transacted with the SMEs in manufacturing sector.

Table 5. 3:Descriptive statistics of years for SMEs in Manufacturing Sector

Years in Business/ Years with the firm	Frequency	Percent (%)
Owner/ Manager (48)		
Below 1	11	22.9
1- 3	13	27.1
4- 7	20	41.7
Above 7	4	8.3
No Response	0	0
Employee (48)		
Below 1	16	33.4
1- 3	15	39.6
4- 7	10	20.8
Above 7	3	6.3
No Response	0	0
Customer (82)		
Below 1	34	41.5
1- 3	36	43.9
4- 7	10	12.2
Above 7	1	1.2
No Response	1	1.2

Source: Field Data, (2019)

It was observed that 20 people representing 41.7% of respondents who owned and (or) manage SMEs have been in manufacturing for between 4 to 7 years. The least was the Owners/ mangers who responded that they have been in operation for more than 7 years, constituting 8.3%. On the year (s) employees have been worked with the firms, an estimated 39.6% constituting majority of the respondents have worked between 1 to 3 years. The least length of years worked by employees was those who have worked above 7 years representing 6.3%. The study further revealed that 41.5% of the customers have been transacting business with the SMEs up to 3 years. This was the highest recorded for owners/ managers. It was found out that as low as 1.2% of the respondents indicated that they have been customers for more than 7years with the SMEs

With this section, the researcher analyzedSMEs in service separate from SMEs in Manufacturing, this to identify whether there is a difference between them.Analysis of findings regarding the length of periods respondents have been in business or have dealt with the business implies that SMEs in services sector are have been in operation for period not more than 3year, employee working with them for up to 3 years and the customers switching from their services after 1 year. Therefore, it can also be concluded that manufacturing SMEs have owners/ managers who have operated their business for 3 years, worked with employees who have been with them for 3 and retained customers up to 3 years.

It can be observed that manufacturing SMEs have long years of operation, relatively lower employee turnover lower than the SMEs in service sector. Customer retention in services is one difficult area of business due to the nature of service characteristics. This is typical in the SME sector according to earlier review of literature (Fitzsimons &Fitzsimons, 2013;Appiah-Adu &Singh,1998). Again, findings of this research are in agreement with findings of several authors who have researched on SMEs in Ghana. They postulated that; small firms have a

short life span. It is also said that SMEs in Africa and Ghana collapse before their third year of operation. (Awal, 2018; Yeboah, 2015; Abor & Quartey 2010; Mahmoud, 2011)

5.2.3 Descriptive analysis of the firm Status of SMEs in services Sector.

The study sought to find out the type of ownership, registration status, annual budget and source of fund for SMEs in services.

Table 5. 4:Descriptive statistics of firm Status

Characteristics	Frequency (256)	Percent (%)
Type of Ownership		
Sole Proprietorship	111	43.5
Partnership	63	24.6
Limited Liability	63	24.6
Public Owned	0	0.0
Public/ Private Own.	9	3.5
No Response	10	3.9
Registrar Gen. Dept. Registration		
Yes	100	39.1
No	142	55.5
No Response	14	5.5
Other Registration		
Yes	151	59
No	73	28.5
No Response	32	12.5
Annual Budget of the Firm (Ghs)		
1- 99000	160	62.5
100,000- 190,000	47	18.4
200,000Above	11	4.3
No Response	38	14.8
Source of Fund		
Personal finance	12	46.9
Bank Loan	73	28.5
Trade Credit	41	16
Family and Friends	10	3.9

Share	0	0
No Response	11	4.3

Source: Field Data, (2019)

The data contained in Table 5.4 provides information on the type of ownership, their registration status, their annual budget and the sources of funding for SMEs in the service sector. Of the 256 owner/ managers, 43.5% which was the highest percentage indicated that their SMEs were under sole proprietorship. Only 3.5% were jointly operated through Public/Private ownership. The research did not encounter any public owned SMEs. The study also revealed that 39.9%of SMEs had registered with the Registrar Generals Department while 55.5% of the SMEs did not. It was found out that, 59% of the respondents indicated that majority of the SMEs are registered with other agencies while 24.5% indicated they did not have other registrations. Further, it was discovered that 65.2% of the SMEs budgeted from Ghs 1 to Ghs 99,000 annually, 18.7% budgeted Ghs 100,000 to Ghs 190,000, 4.3% budgeted Ghs 200,000 or more whereas 41% of the respondents provided no information on their annual budget. The study found out that the dominant sources of funding for SMEs in the services sector was Personal financing constituting 46.9%. The Least of the source of funding was contribution from family and friends constituting 3.9%.

5.2.4 Descriptive analysis of Firm Status SMEs in Manufacturing sector.

The results on the type of ownership, the registration status, the annual budget and the source of funding for SMEs in the manufacturing sector are presented in Table 5.5.

Table 5. 5:Descriptive statistics of Firm Status for SMEs in Manufacturing

Characteristics	Frequency (48)	Percent (%)
Type of Ownership		
Sole Proprietorship	31	65
Partnership	11	23
Limited Liability	3	6.3
Public Owned	0	0
Public/ Private Own.	2	4.2
No Response	1	2.1
Registrar Gen Dept. Registration		
Yes	21	43.8
No	26	54.2
No Response	1	2.1
Other Registration		
Yes	27	56.2
No	12	25
No Response	9	18.8
Annual Budget of the Firm (Ghs)		
1- 99,000	17	35.4
100,000- 190,000	8	16.7
200,000Above	7	14.6
No Response	16	33.3
Source of Fund		
Personal finance	15	31.3
Bank Loan	10	20.8
Trade Credit	4	10.4
Family and Friends	8	16.7
Share	0	0
No Response	10	20.8

Source: Field Data, (2019)

It was observed that, majority of the owner/ managers of SMEs in manufacturing representing 65% responded that they operate under sole proprietorship. Whereas minority of them said their firms are Public/Private Ownership representing 4.2%, although no firm indicated they are owned by the public. On the registration status, 54.2% majority of the manufacturing SMEs were not registered with the Registrar General's Department (RGD) while 43.8% were register with Registrar General's Department (RGD). On the Contrary, 56.2% of the manufacturing SMEs reported they registered with other agencies beside the RGD while 25% did not. A total of 35.4% manufacturing SMEs budgeted from Ghs 1 to Ghs 99,000, while 16.7% and 14.6% of SMEs budgeted Ghs 100,000 to Ghs 190,000 and from Ghs 200,000 and above on annual basis respectively. The study further reported that most of the SMEs comprising 31.3% sourced funding from Personal finances. A few representing 10.4% were through trade credit.

The findings of this study implythat,SMEs in both services and Manufacturing are mainly sole proprietor who are not registered with RGD but prefer to register with industry or other government agencies. Again, they budget annually less than Ghs 100,000 and use personal savings to finance their business.This finding does not depart from the study by Augustine and Asiedu (2017), Ayeetey et al. (1994) and Akugri, Bagah, and Wulifan(2015) who indicated that majority of the SMEs are sole proprietorship business. Also, SMEs are largely privately owned as was indicated by Senzu (2014) and Asare (2014).

There is enough evidence from this study and that of other researchers that many SMEs do not register their Business with the Registrar General Department of Ghana. This makes it difficult to access data on their operation (Abor & Quartey, 2010; Adu-Darko, 2017, Aryeetey, 1998) Beyond the Registrar General's Department, the study sought information on

the registration status of SMEs with other agencies or organizations. Such agencies could help them with support such as access to funds, training and conference, bargaining with governmental and none governmental institutions. The researcher discovered from the field data that, some of the SMEs belong to organizations such as Ghana association of freight forwarders, Ghana of hair dressers and Beauticians association (GHABA), national board for small scale industry (NBSSI) and medium and small-scale loan center (MASLOC) among others. It was found out that majority of the SMEs preferred to rather register or associate with other institution rather than the RGD.The firms are believed to have support system that helps their business through other registration such as industry association according to a previously reviewed literature, Adu-Darko (2017). Additionally, this finding shows that majority of SMEs are self-financed this to a great extent account for their stagnation and inability to expand, innovate and improve. Similar assertions were made by different authors in the earlier literature review, (Fuseini (2015); Augustine and Asare (2017); Abor & Bleipke (2012); Nkuah et al. (2013). This confirms the previous reviewed literature that says major source of fund for SMEs are personal funding. This impedes growth and survival (Aryeetey et al., (1998); Abor &Quartey, (2010); Fuseini, (2015). Most SMEs could not budget large sums to take care of costly initiatives like TQM because they self-finance their business which may not be enough for such initiatives.

5.3.0 Presentation and Discussion of TQM Practices among SMEs

TQM practices of the firms in terms of the level of awareness, perception level, and quality policy and review periods and the overall satisfactory level of the implementation in the SME firm is discussed in this section.

5.3.1 Descriptive Analysis of TQM practices among SMEs in Service Sector

Table 5.6 presents views of owner/ managers on TQM practices in their firms. Data were ascertained from owner/ managers on the level of awareness, perception level, quality policy review periods and the overall satisfactory level of the implementation in the SME firms. Table 5.6 presents views of owner/ managers on TQM practices in their firms. Evidently, with reference to Table 5.6 below, the concept of TQM is not well known among SMEs in service sector. Clearly, majority of the owners representing 50.8% indicated that they were not aware of TQM while 45.3% wereaware of the TQM concept. The researcher discovered from the response that majority of the SME owner/ managers had low perception level about TQM. These owners constituted 39.1% while the few ones who had high perception level about TQM were 17.6%. On the length of period they review their quality policy, majority representing 33.9 % responded that the review their quality half yearly based on introduction of new trend in the sector. Few of them also indicated they review their quality policy monthly. The data in the table below show majority of the respondent's indicated their firms have low satisfactory level of TQM. This was represented by 45.3% while 12.1% of the people indicated they had high satisfactory levels

Table 5. 6:Descriptive Statistics of TQM practices among SMEs in Service Sector

TQM Practice	Frequency (256)	Percent (%)
TQM Awareness		
Yes	116	45.3
No	130	50.8
No Response	10	3.9
Perception Level of TQM		
Low	100	39.1
Moderate	85	33.2
High	45	17.6
No Response	26	10.2
Quality Policy		
Yes	101	39.5
No	152	59.4
No Response	3	1.2
Review of Quality, Policy		
Monthly	22	8.6
Quarterly	43	16.8
Half Yearly	87	33.9
Yearly	72	12.5
Every Two Years	0	28.1
No Response	0	0
Implementation Satisfaction		
Low	8	45.3
Moderate	21	32.8
High	12	12.1
No Response	7	9.8

Source: Field Data, (2019)

5.3.2 Descriptive analysis of TQM Practices among SMEs in Manufacturing Sector

With regards to SMEs in manufacturing, TQM practices of the firms in terms of the level of awareness, perception level, quality policy review periods and the overall satisfactory level of the implementation in the SME firms see Table 5.7.

In relation to TQM awareness among SMEs in manufacturing, the highest representing (79.1%) of the owner/ managers indicated they are aware of TQM concept whiles 20.3% indicated they are not aware of TQM concept. Also, 41.7% indicated there is medium perception of the TQM practices in their firm. Similarly, 41.7% also indicated there is high perception of the TQM concept in their firm. Also 8 (1.7%) owner/ managers indicate that there is low TQM perception in their firm. Response from quality review policy about TQM for SMEs in manufacturing, majority of the managers (58.3%) indicated they review their TQM policy yearly. With the least being 4 managers (8.3%) indicated they review quality policy quarterly. Finally, on TQM implementation satisfaction level among managers in SMEs in manufacturing, the highest was moderate satisfaction level, representing 43.8%. On the other hand, those with low implementation satisfaction levels were 16.7%

Table 5. 7: Descriptive statistics on TQM practices among SMEs in Manufacturing

TQM Practice	Frequency (48)	Percent (%)
TQM Awareness		
Yes	38	79.1
No	10	20.3
No Response	0	0
Perception Level of TQM		
Low	8	1.7
Moderate	20	41.7
High	20	41.7
No Response	0	0
Quality Policy		
Yes	42	87.5
No	6	12.5
No Response	0	0
Review of Quality Policy		
Monthly	4	8.3
Quarterly	7	14.5
Half Yearly	9	18.8
Yearly	28	58.3
Every Two Years	0	0
No Response	0	0

Implementation Satisfaction		
Low	8	16.7
Moderate	21	43.8
High	12	25
No Response	7	14.6

Source: Field Data (2019)

5.3.3 Descriptive analysis of Seven Quality Control Tools Used by SMEs in Services Sector

In order for the researcher to have an in-depth knowledge of the extent to which TQM is practiced among SMEs in service sector, data was ascertained from Owner/ managers on the types(s) of Quality Control Tools (QTC) they employ in their operation. This was to give the researcher how these SMEs control Quality. The illustration in Table 5.8 shows that most of the owners/ managers constituting 42.2% employed check sheet in controlling quality in their organization. The least used tool by the SMEs in services is the flow chart (1.5%). However, there was no Fish bone diagram usage in this sector, (See Table 5.8)

Table 5. 8:Descriptive statistics of the seven QCT usage by SMEs in Service Sector

Quality Control Tools	Frequency (256)	Percentage (%)
Pareto charts	11	4.4
Flow Charts	4	1.5
Scatter Diagram	6	2.3
Fish Bone Diagram	0	0
Histogram	32	12.5
Check Sheet	108	42.2
No Response	95	37.1

Source: Field Data, (2019)

5.3.4 Descriptive analysis of the Seven Quality Control Tools Usage by SMEs in Manufacturing Sector

Quality control tool usage among SMEs in manufacturing was sought by the researcher to have an additional knowledge of the extent to which TQM is practice. Data was ascertained from Owner/ managers on the types(s) of Quality Control Tools (QTC) they employ in their operation. This was to give the researcher how these SMEs control Quality. The illustration in Table 5.9 shows that most of the owners/ managers constituting 47% employed check sheet in controlling quality in their organization. The least used tools by the SMEs in manufacturing is the flow chart. However, there was no Fish bone diagram usage in this sector.

Table 5. 9: Descriptive statistics of the seven QCT used by SMEs in Manufacturing Sector

Quality Control Tools	Frequency (48)	Percentage (%)
Pareto charts	2	6.3
Flow Charts	5	10.4
Scatter Diagram	6	12.5
Fish Bone Diagram	1	2.1
Histogram	9	18.8
Check Sheet	23	47.92
No Response	1	2

Source: Field Data, (2019)

In answering the first objective of this research that sought to find the TQM management practice among SMEs in Ghana, it is evident from the findings above that the manufacturing and SMEs are practicing an appreciable level of TQM as compared to the services SMEs. From the finding the service sector has no knowledge of the TQM concept, low perception level with few indicating that they have a quality policy in their firm. The satisfaction level of TQM implementation is low with and the dominant control tools among firms in the service sector is check sheet. The manufacturing sector is aware of the TQM concept, it has moderate- high perception level, majority of the firms have a yearly quality review policy.

InGeneral,per the findings of this research is that, there is low practice of TQM among SMEs in Ghana.

5.4 Presentation and Discussion on CSFs of TQM and Firm Performance

This part of the study sought to provide answers to the second objective of the study that sought to find out the Critical Success Factor of TQM implementation among SMEs. From the previously reviewed literature, numerous factors were identified as critical to the implementation of TQM. The researcher however sampled the dominant ones identified by different authors. This research adopted seven of these critical success factors and how each can contribute to TQM implementation (Jahangiri, 2017; Salaheldin, 2009; Antony et al., 2002; Zakuan et. al., 2012; Zhang et. at, 1999). The factors are: Top Management Commitment, customer focus, employee involvement, Education and Training, Reward and Recognition, Supplier Quality Management and Process Control and Improvement. Therefore, opinions of respondents were sought on the extent to which the CSFs of TQM implementation will facilitate TQM implementation and its resultant impact on Business performance. The CSFs were used to test performance with respect to employee satisfaction, profitability and customer satisfaction. The eight constructs comprising of 7 TQM implementation critical success factors and Business performance on a 7-point Likert scale (1= Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4= Neutral, 5= Somewhat Agree, 6= Agree and 7= Strongly Agree) were used. First the 7 CSFs were analyzed to know first of all, their influence on TQM. Subsequently, TQM and business performance will be analyzed to know their relationship. A descriptive analysis will first be done to ascertain the means of all the eight constructs. Additionally, the constructs will be modeled and analyzed using partial least square - structural equation modelling (PLS-SEM).

5.4.1 Descriptive analysis on construct and their Means

The researcher sought to explore the views of the respondents on the study construct. Below are their responses. Taking into account the overall mean of business performance construct of 5.68, it can be observed that total quality management enhances business performance. This is revealed in Table 5.10 as the indicators, customer satisfaction improvement and decreased employee turnoverhad the highest scores respectively (Mean = 6.11; 6.09; SD = 1.329; 1.274). On a seven-point Likert scale, the owners/ managers fairly agreed that business performance is improved through decrease in customer complain. Similarly, top management commitment had the overall mean of 5.8 and this implies that top management commitment impacts of TQM. Top management benchmark for improvement scored the second highest of 5.92 and top management participation scored the second highest mean of 6.01. However top management encouragement of employee involvement had the least mean of 5.58, implying the managers somewhat agree that encouragement of employee involvement by top management positively impact of TQM.

In the case of customer focus, grand mean was 5.1 which depicts customer focus influences TQM positively with market research for improving product with customer feedback as tool for improving product quality being the major indicators respectively (5.43 and 5.32). Owners/ managers fairly agree that customer unit liaises with production unit.

With regards to employee involvement an average of 5.53 was scored. The two highest means were from employee representation at decision making and cross functional teams to get employee involved with 6.03 and 6.02 respectively. Owners/ managers and employees agreed that making employees responsible for quality (5.11) and providing avenue for reporting work problem (5.14) will enhance TQM for SMEs.

Considering supplier quality management, a mean of 5.32 was recorded. Among other factors considered important in improving quality management of suppliers is financial and technical assistance to suppliers (6.17) and feedback on performance of suppliers (6.07). However, owners/managers believe giving suppliers support to protect quality (2.60) and undertaking quality audit of suppliers (5.81) somewhat enhance TQM of SMEs

With education and training, an average of 4.80 was recorded. Among other factors considered important in improving education and training is updating knowledge and making resources availability for employee training. However, owners/managers believe promoting quality awareness and supporting systems that encourages employee training fairly enhance TQM of SMEs

Further, on reward and recognition, a grand mean of 5.86 was recorded. Factors considered important in improving reward and recognition is rewarding employees financially for excellent suggestion and stimulating employees' commitment. However, owners/managers believe improvement in working condition and annual dinner and awards fairly enhance TQM of SMEs

Finally, on process management and continuous improvement, a mean of 5.31 was recorded. Factors considered important in improving process management and continuous improvementareregular system audit and implementation of inspection and control tools. However, owners/managers somewhat agree that focusing on product quality and elimination of waste and processes enhance TQM of SMEs

Overall, both employees and Owners/ managers responses on Reward and Recognition had the highest mean of 5.86 indicating that reward and recognition are the most critical success

factor for implementing TQM. Education and training on the other hand which score mean of 4.8 wasthe least of all the seven CSFs identified. This indicates respondents see it to be the least factor for the successful implementation of TQM. Conclusion can be drawn based on this study is that in the perspective of owner/ Managers and employees, the 7 identified CSFs enhance TQM implementation. This is in agreement of the earlier literature review by other authors on CSFs of TQM implementation and SMEs performance (Zakuan et. al., 2012 Zhang et. at, 1999; Jahangiri, 2017; Salaheldin, 2009; Dayton, 2001).

Table 5. 10:TQM Descriptive statistics on Construct and their means

Constructs	Min.	Max.	Mean	Std. Dev.
Business Performance			**5.68**	**1.42**
Customer satisfaction improvement leading to referrals	1	7	6.11	1.330
Decrease in product defects and failure	1	7	5.04	1.768
Decrease in customer complain	1	7	4.63	1.803
Improved product performance hence increased sale	1	7	5.94	1.251
Improved business process leading to cost reduction	1	7	5.98	1.194
Culture of quality finished products	1	7	6.03	1.185
Employee satisfaction dues to increase salary	1	7	5.83	1.316
Employee participation	1	7	5.47	1.733
Decreased employee turnover	1	7	6.09	1.215
Top Management Commitment			**5.80**	**1.15**
Top management participation	1	7	6.01	1.007

Establishment and communication of vision	2	7	5.86	1.093
Encouragement of employee involvement	1	7	5.58	1.357
Top management benchmark for improvement	1	7	5.92	1.072
Financial support for quality activities	1	7	5.62	1.218
Customer Focus			**5.10**	**1.67**
Priority given to customer complains	1	7	5.18	1.726
Conducting of customer satisfaction survey	1	7	4.91	1.765
Market research for improving product	1	7	5.43	1.540
Customer feedback as a tool for improving quality	1	7	5.32	1.651
Customer units teaming with production unit	1	7	4.64	1.657
Employee Involvement			**5.53**	**1.25**
Employee representation at decision making	1	7	6.03	.998
Cross-functional teams to get employees involve	1	7	6.02	1.010
Employees responsible for quality	1	7	5.11	1.481
Employee encouragement in making suggestion	1	7	5.36	1.409
Employee allowed to take action	1	7	5.65	1.133
Avenue for whistleblowing	1	7	5.14	1.383
Stimulation of innovation and creativity	1	7	5.39	1.341
Supplier Quality Management			**5.32**	**1.26**
Establishing long term mutual supplier support	1	7	5.95	1.243
Priority to product quality	1	7	2.60	1.846
Supplier quality audit	1	7	5.81	1.202
Feedback on performance of suppliers	1	7	6.09	1.009

Financial and technical support to supplier	1	7	6.17	1.015
Education and Training			**4.80**	**1.42**
Updating of knowledge and quality by top quality	1	7	5.72	1.133
Resources availability for employee training	1	7	5.57	1.254
Employees trained in quality management	1	7	5.24	1.247
Quality awareness	1	7	4.21	1.774
Support systems that encourages employee training	1	7	3.26	1.709
Reward and Recognition			**5.86**	**1.17**
Improvement in working condition	1	7	5.54	1.437
Salary promotion	1	7	5.83	1.115
Promotion based on work quality	1	7	5.98	1.120
Financial reward for excellent suggestion	1	7	6.12	1.030
Commitment stimulation	1	7	6.00	1.145
Annual dinner and awards functions	1	7	5.71	1.173
Process Management and Continuous Improvement			**5.31**	**1.35**
Regular system audit	1	7	5.66	1.235
Firm kept clean and neat	1	7	5.37	1.356
Elimination of waste and processes	1	7	5.34	1.323
Implementation of inspection and control tools	1	7	5.45	1.380
Adoption of technology	1	7	4.98	1.475
Focus on product quality	1	7	5.09	1.354

Source: Field Data, (2019)

5.4.2 Model Evaluation

The partial least square - structural equation modelling (PLS-SEM) was employed in analyzing the data. PLS-SEM results are evaluated through two systematic processes - the assessment of measurement and structural model.

5.4.3 Measurement Model

Generally, for PLS-SEM, the measurement model assessment emphasis on the reliability, convergent validity and discriminant validity, Hair et al. (2017).

5.4.4 Assessment of Internal Consistency

The constructs were reflectively measured. In this study, both the composite reliability and the Cronbach alpha were used to measure the internal consistency reliability. Researchers have indicated that Cronbach alpha and composite reliability with values between 0.70 and above are acceptable, Hair et al. (2017). From Table 5.10, the Cronbach alpha and composite reliability values for all the constructs of the study rose above 0.70. Hence, all the constructs have achieved acceptable levels of internal consistency.

5.4.5 Assessment of Indicator Reliability

Included in the rules of thumb for evaluating reflective measurement models is the indicator reliability. Here, the rule says that, the indicator outer loadings should be higher than 0.70, Hair et al. (2017). Therefore, under business performance 3 items with outer loadings of below or equal to 0.7 were deleted to increase the composite reliability and average variance extracted (AVE) to meet the threshold of 0.700 and 0.500 respectively. Business performance had 3 items deleted due to its weak loading (PERF2 = 0.58, PERF3 = 0.52 and PERF8 = 0.64). Top management commitment with an outer loading of 0.64 was removed whereas 2

EIN4 AND EIN5 items under employee involvement with loadings 0.65 and 0.67 respectively were also dropped. Customer focus had one item deleted thus CF5 = 0.67. The overall items that were deleted included EIN4 = 0.65, EIN5 = 0.67, TMC3 = 0.64, CF5 = 0.67, SQM2 = 0.35, ET4 = 0.26, ET5 = 0.231, RR1 = 0.578, RR5 = 0.65, PERF2 = 0.58, PERF3 = 0.52 and PERF8 = 0.64. (see Table 5.9)

5.4.6 Assessment of convergent Validity

Generally, the accepted measure to establish convergent validity of a construct is the average variance extracted **(AVE),** Hair et al. (2017). The rule of thumbs with respect to the evaluation of the convergent validity indicates that, the AVE of each measurement construct should be above 0.50. It is evident from Table 5.9 that all 8 constructs had AVEs that are above 0.50 with the lowest being 0.592 and the highest AVE being 0.747.

Table 5. 11: Items Loading, Cronbach Alpha, Composite reliability and Average Variance Extracted

Constructs	Items	Loadings	CA	CR	AVE
BUS. PERF.	PERF1	0.751	0.915	0.935	0.706
	PERF4	0.876			
	PERF5	0.910			
	PERF6	0.913			
	PERF7	0.827			
	PERF9	0.749			
CUS. FOCUS	CF1	0.794	0.862	0.904	0.703
	CF2	0.777			
	CF3	0.912			
	CF4	0.864			

EDU. & TRAIN.	ET1	0.905	0.829	0.898	0.747
	ET2	0.913			
	ET3	0.767			
EMP. INVOLVEMENT	EIN1	0.830	0.831	0.878	0.592
	EIN2	0.821			
	EIN3	0.745			
	EIN6	0.686			
	EIN7	0.756			
PRO. MGT. & CONT.	PMC1	0.757	0.875	0.906	0.616
	PMC2	0.813			
	PMC3	0.813			
	PMC4	0.791			
	PMC5	0.775			
	PMC6	0.759			
REW. & REC.	RR2	0.842	0.878	0.916	0.733
	RR3	0.836			
	RR4	0.893			
	RR6	0.852			
SUP. QUAL. MGT.	SQM1	0.784	0.874	0.914	0.727
	SQM3	0.844			
	SQM4	0.882			
	SQM5	0.895			
TOP. MGT. COM.	TMC1	0.823	0.836	0.891	0.673
	TMC2	0.877			
	TMC4	0.881			

Source: Field Data, (2019)

Assessment of Discriminant Validity

The degree to which a construct is by practical standards unique from other constructs is referred to as discriminant validity. To establish discriminant validity, construct must be different and depict a phenomenon not represented by other constructs. Researchers have recommended cross loadings, HTMT and Fornell-Larcker criterion to be used to assess the discriminant validity of the indicators, Hair et al. (2017).

Fornell – Larcker

The Fornell-Larcker criterion suggested by Fornell and Larcker (1981) states that the square root of AVE should be greater than the highest correlation shared between the construct and the other constructs. The analysis of the Fornell-Larcker criterion is illustrated in Table 5.12. The diagonals presented the square root of the AVE and the correlations among constructs. When the correlations among the other constructs are less than the square root of the AVE of a construct, there is the indication of discriminant validity is established.

Table 5. 12:Fornell – Larcker

	PERF	CF	ET	EI	PMC	RR	SQM	TMC	TQM
BUS. PERF.	**0.840**								
CUS. FOCUS	0.109	**0.839**							
EDU. & TRAIN.	0.398	0.122	**0.864**						
EMP. INVOLVEMENT	0.472	-0.014	0.443	**0.769**					
PRO. MGT. & CONT.	0.317	-0.006	0.257	0.400	**0.785**				
REW. & REC.	0.428	0.232	0.502	0.514	0.303	**0.856**			
SUP. QUAL. MGT.	0.394	0.176	0.394	0.539	0.359	0.599	**0.852**		
TOP. MGT. COM.	0.384	0.174	0.391	0.492	0.256	0.641	0.575	**0.820**	
TQM	0.545	0.219	0.656	0.783	0.548	0.819	0.787	0.768	**0.528**

Cross-Loadings

The cross-loading is the first approach to assess the discriminant validity of the indicators. The approach specifies that an indicator's outer loading on the connected construct should be greater than any of its cross-loadings - that is, it's correlation on other constructs. The cross loadings in bold as displayed in the results in Appendix A indicates that there is a discriminant validity between all the constructs.

Heterotrait- Monotrait Ratio (HTMT)

Prior studies suggest that cross-loadings and the Fornell-Larcker unreliably detects discriminant validity issues, Henseler, Ringle and Sarstedt (2015). Hence, Henseler *et al*. (2015) proposes evaluating the heterotrait-monotrait ratio (HTMT) of the correlations. HTMT approach is an estimation of what the actual correlation between two constructs will be if they were perfectly measured. However, HTMT assessment above 0.90 suggests a lack of discriminant validity, hence, a lower and more conservative threshold value of 0.85 is acceptable. Table 5.13 shows the HTMT of the constructs and it can be established that all the constructs have achieved acceptable levels of HTMT.

Table 5. 13:Heterotrait-Monotrait Ratio

	PERF	CF	ET	EIN	PMC	RR	SQM	TMC	TQM

PERF[1]								
CF[2]	0.116							
ET[3]	0.451	0.182						
EIN[4]	0.531	0.123	0.504					
PMC[5]	0.352	0.088	0.294	0.463				
RR[6]	0.473	0.262	0.580	0.570	0.340			
SQM[7]	0.436	0.193	0.449	0.595	0.404	0.675		
TMC[8]	0.433	0.189	0.470	0.552	0.292	0.737	0.653	
TQM[9]	0.561	0.496	0.722	0.837	0.632	0.849	0.819	0.822

5. 5 Structural Model

The structural model assesses the inner model. The most important aspects of the structural model assessment are collinearity, significance path, coefficient of determination, effect size, predictive relevance and discussion of relationships.

[1] Business Performance
[2] Customer focus
[3]Education Training
[4] Employee Involvement
[5] Process Management and Continuous Improvement
[6] Reward Recognition
[7] Supply Quality Management
[8] Top Management Commitment
[9] Total Quality Management

Multicollinearity assessment

In assessing the collinearity of constructs, the variance inflation factor (VIF) is used. Each predictor construct's value which is the VIF should be higher than 0.20 and lower than 5. From the Table 5.14 below, it is apparent that all the VIF values fall within 0.20 and 5. This indicates that there are no multicollinearity issues.

Table 5. 14:Constructs and their Variance Inflation Factor

Constructs	Business Performance	Total Quality Management
Customer Focus		1.106
Education and Training		1.438
Employee Involvement		1.794
Pro. Mgt. and Con.		1.244
Reward and Recognition		2.247
Supplier Quality Mgt.		1.939
Top. Mgt. Com.		1.936
Total Qual. Mgt.	1.000	

Assessment of Significant Path

In assessing significant levels, the *P*- values approach is used. The *p* -value is the probability of inaccurately assuming a significant path coefficient when in fact the path is not significant.

Results from Table 5.14shows that there is a positive relationship between TQM -> BUS. PERF. The relationship is statistically significant. Also, the relationship betweenCUS. FOCUS -> TQM, EDU. & TRAIN. -> TQM, EMP. INVOLVEMENT -> TQM, PRO.

MGT. & CONT. -> TQM, REW. & REC. -> TQM, SUP. QUAL. MGT. -> TQM and TOP. MGT. COM. -> TQM are all supported. These relationships are discussed in subsequent sections. (see table 5.15)

Table 5. 15:Assessment of Path Relationships

Path	Path Coefficient	T Statistics	P Values	Decision
CUS. FOCUS[10] -> TQM[11]	0.070	2.601	***0.010	Supported
EDU. & TRAIN[12]. -> TQM	0.184	9.668	***0.000	Supported

[10] Customer focus
[11] Total Quality Management
[12] Education Training

EMP. INVOLVEMENT[13] -> TQM	0.282	14.446	***0.000	Supported
PRO. MGT. & CONT.[14] -> TQM	0.182	8.017	***0.000	Supported
REW. & REC.[15] -> TQM	0.241	13.652	***0.000	Supported
SUP. QUAL. MGT[16]. -> TQM	0.213	14.373	***0.000	Supported
TOP. MGT. COM. -> TQM	0.221	12.810	***0.000	Supported
TQM -> BUS. PERF.[17]	0.545	8.265	***0.000	Supported

***** Significant at 0.01** **** Significant at 0.05**

Source: Field Data (2019)

Coefficient of determination (R^2)

The most common measure to assess the structural model is the coefficient of determination (R^2). The R^2 is the squared correlation of actual and predicted values. It includes all the constructs employed for the model estimation to judge the model's predictive power - it represents a measure of in-sample predictive power, Sarstedt, Ringle, Henseler, & Hair (2014). The rule of thumb for the assessment of R^2 is that, R^2 value of 0.75 is substantial, moderate at 0.50 and weak at 0.25 (Chin 2010); Hair et al., 2017). From Table 5.16, business performance obtained an R^2 of 0.297. This indicates that the R^2 of this model is weak. However other similar studies conducted had lower R^2. Although the R^2 obtained is weak, the P- values are all significant.

Predictive Relevance (Q^2)

[13] Employee Involvement
[14] Process Management and Continuous Improvement
[15] Reward Recognition
[16] Top Management Commitment
[17] Business Performance

The construct cross-validated redundancy ($\mathbf{Q^2}$) indicates the out-of-sample predictive relevance. That is, the ability of the model to predict endogenous latent variables.The endogenous variable in this study exhibits acceptable level of predictive accuracy ($\mathbf{Q^2}$ = 0.188). This is because the value of the $\mathbf{Q^2}$ is greater than zero. (see Table. 5.16)

Table 5.16:R-Square, R-Square Adjusted and Q-Square of Constructs

Constructs	R Square	R Square Adjusted	Q- Square
Business Performance	0.297	0.294	0.188
Total Quality Management	0.992	0.991	0.254

Source: Field Data, (2019)

Effect Size Assessment

The effect size (f^2) aids in the assessment of an exogenous construct's contribution on an endogenous latent variable. f^2 values of 0.02, 0.15, and 0.35 suggest that an exogenous construct has a small, medium, or large effect, respectively, on an endogenous construct (Hair et al., 2017). From Table5.17, the f^2 value of the study constructs indicate that the removal of any of the exogenous construct will have a substantial effect on the endogenous variable.

Table 5. 17:Effect Size of Constructs

Constructs	Business Performance	Total Quality Management
Customer Focus		0.522
Education and Training		2.805
Employee Involvement		5.287
Pro. Mgt. and Cont. Improve.		3.186

Reward and Recognition		3.092
Supplier Quality Management		2.787
Top Management Commitment		3.019
Total Quality Management	0.422	

Source: Field Data, (2019)

5.5.1 DISCUSSION ON RELATIONSHIP

Figure 3: Relationship between CSF, TQM and Business performance.

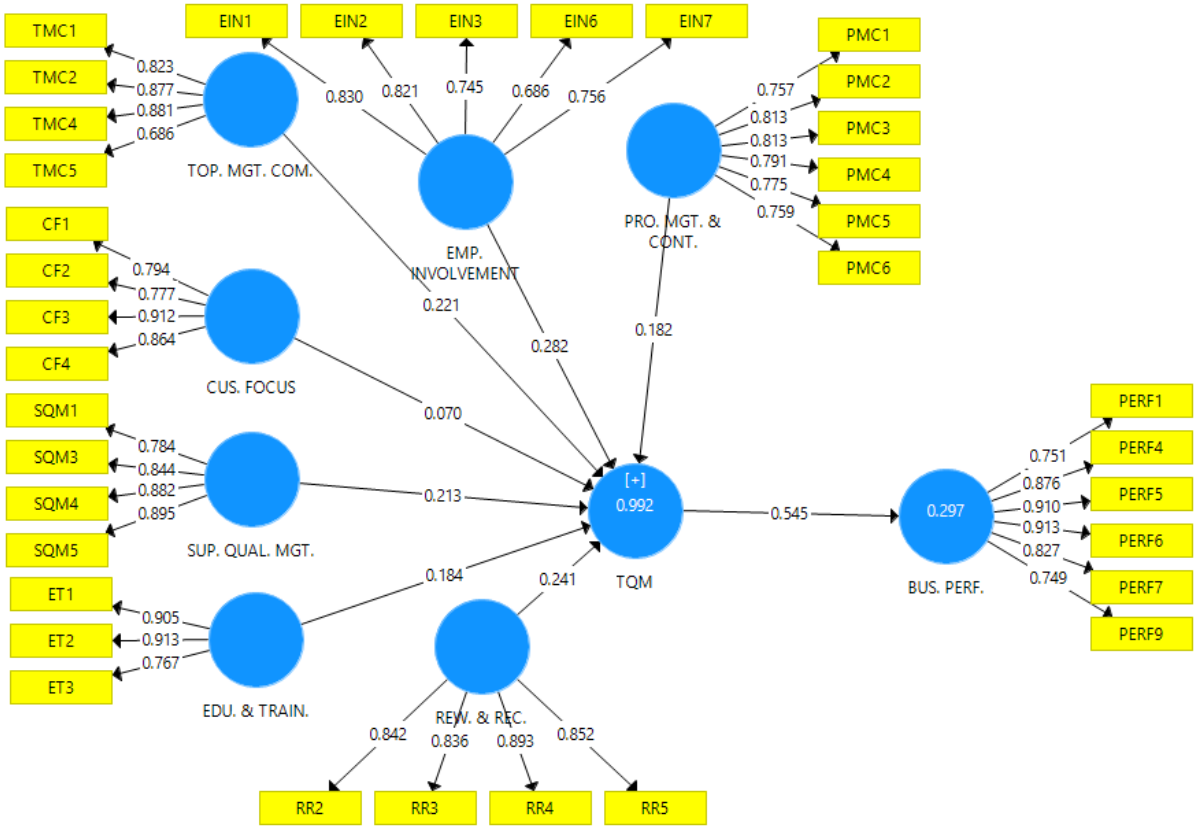


Figure 3 shows the structural model of the relationship between CSFs (Top ManagementCommitment = TMC, Customer Focus= CF, Employee Involvement =EIN, Education and Training= ET, Reward and Recognition = RR, Supplier Quality Management =SMC and Process Control and Improvement = Pro.M& Cont.) of implementing TQM and the subsequent relationship on business performance. This model is the highest order model that is,even though focus is on positive impact of TQM on business performance;it first shows the positive relationship between the seven CSFs and TQM implementation. The path model, path coefficient, standard error for each path, the t- statistic values and thep-values at

5% significance level were applied in analyzing the model. The path coefficients express how the independent variables affect thedependent variables. These coefficients indicate if the effects are significantly positive orsignificantly negative. Each of the dependent variables was regressed on theindependent variables. The first order was done by regressing the seven CSFs on TMQ. Employee involvement had the highest path coefficient (**β)** of 0.282 implying that owners and employees of SMEs both perceive employee involvement to be the most critical success factor for successful implementation of TQM. From Figure 5.1, and Table 5.14 above, holding other things constant, when top management commitment improves by a unit for instance, it will increase TQM implementation success by 0.221. Similarly, reward and recognition enhance TQM implementation by 0.241. Consequently, TQM was regressed on Business performance. The result further exhibits a positive relationship between TQM and business performance. The path coefficient depicts respondents believe that TQM implementation will positively impact on business performance by 0.545. The result from this finding supports the previously reviewed literature that posited that the seven Critical Success Factors of TQM implementation have a positive relationship with successful implementation of TQM, (Jahangiri, 2017; Salaheldinet al. 2003, 2015; Zakhuan et al., 2012; Oakland, 1995 & Salaheldin 2009)

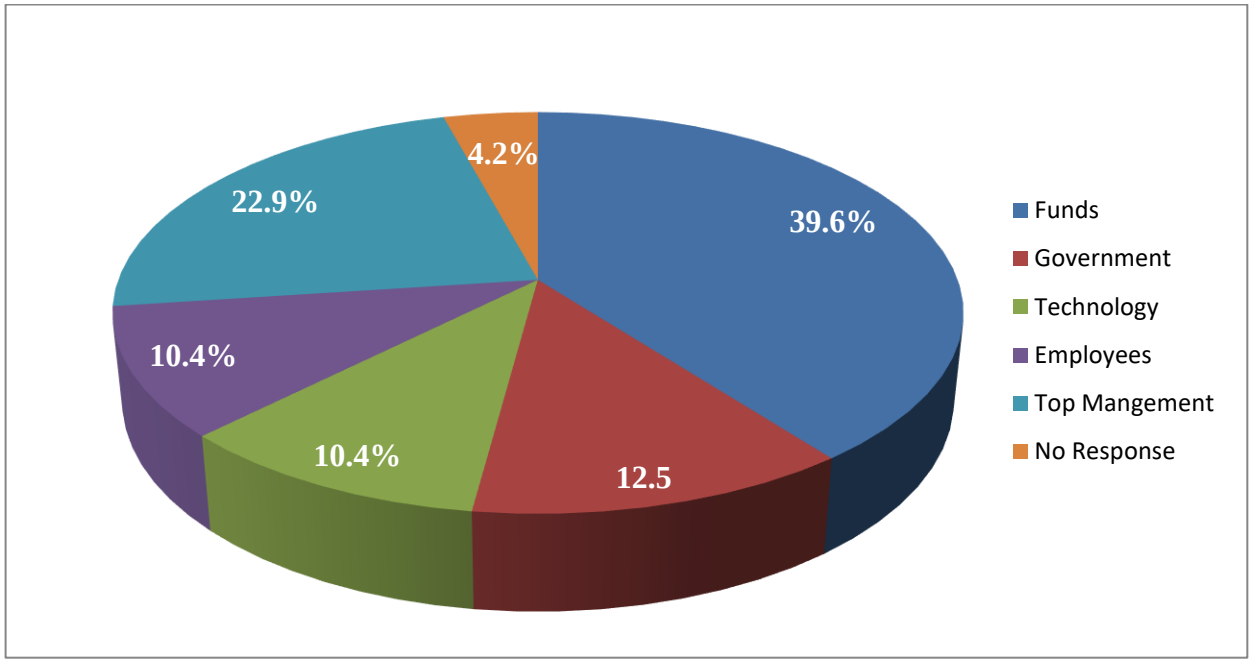
5.6 Presentation and Discussions of findings on Challenges of TQM Implementation

The researcher through the questionnaires collected data on the challenges SMEs faceimplementing TQM in their business. Respondents indicated numerous factors or barriers hindering implementation of TQM in their organization. The researcher then grouped the factors under five broad categories. Funds related challenges were grouped

together,governmental related challenges were also grouped together. Challenges with regards to technology was also grouped under one heading, employees associated were also put together. The last category was top management related challenges. From Figure 4 below, it is evident that majority the respondents indicated funds related challenges as the barrier to the implementation of TQM in their organization representing 39.6%. Both technology and government had the lowest representing 10.4% each.

The factors identified are similar to findings of researches that were earlier review. For instance, According to Mallur et al. (2012) and Mann, and Kehoe (1995) out lined funds, top management, employee, technology, organizational culture among others as the challenges impeding successful implementation of TMQ in firms. As earlier indicated, the selected SMEs have funding challenges as most of them depend solely on their personal saving. In conclusion, for firms to enjoy the full benefit of TQM implementation success, efforts must be made in clearing away all the obstacles such as the aforementioned.

Figure 4: Factors Affecting TQM Implementation among SMEs



CHAPTER SIX

FRAMEWORK FOR TQM IMPLEMETATION

6.0 Introduction

This chapter proposes and discusses TQM implementation model among Small and Medium-sized Enterprises. The framework is based on TQM, CSFs literature and the quality management practices of SMEs. The proposed framework implementing TQM will be in four stages. Also, this framework proposes a linkage between various stages to ensure implementation success of the TQM concept.

6.1Stages of TQM Framework for Implementation

Frame is defined as *"a well-liked output which services as a means of pressing ideas, concept, pointers and plans in a non-prescriptive manner*", (Dale, 2003). It allows users to choose their own starting point and specific course of action and set own priorities. Further, it enables the development of individual dimensions (in this case, TQM) at a pace that suits the firm's situation and available resources. The proposal of this frame work was necessitated by the lapses identified in the findings of this research. The study found out that SMEs in Ghana are practicing low level of TQM. However, owners/ managers of these enterprises attested to the fact that CSFs on TQM implementation facilitate implementation of TQM which impacts on performance. Additionally, implementation success is impeded by barriers such as funds, top management commitment, government policies among others. Therefore, the frame work include: Stages 1 is start- up and commitment, stage 2, stage 3 and stage 4. However, the aforementioned four stages of implementation weremodeled in

the spirit of the Deming's PDCA cycle (Plan-Do-Check-Act). The PDCA cycles is an iterative four step management method used in business for the control and continuous improvement of processes and products. This framework was inspired by the PDCA cycle because the researcher wants the SMEs to continuously improve so as to attain operational excellence.

6.1.1 STAGE: 1 Start- up and Commitment

This stage is characterized by the SMEs drive to preparation and awareness of TQM. Basically, this is the planning process where "what can and should" be expected from the introduction (for firms who reported they were not aware) and implementation of TQM. The startup stage is a process which requires top management commitment for quality initiatives in all aspects through vision statement and strategies. The vision and strategies should describe how the firm's quality initiative will be reflected in their operations. The strategies and planning process should effectively prepare the firm's environment for change process to implement TQM. Management should also ensure that they create a working environment for quality management. Therefore, on the firm wide quality design it is very important to involve the employees, ensure supplier quality management and customers feedback (input). Employees and suppliers must be led to appreciate the benefits to be gained by using TQM. This is very necessary in achieving the drive, awareness and preparation of TQM concept.

6.1.2 STAGE 2: Developing Quality Management System Focused on Customer Needs

At this stage, top management is required to develop quality system that prioritizes the needs of customers. The focal point of quality management is maintaining close relationships with customers in order to determine fully customer needs as well as to receive feedback on the

extent to which those needs are being met. Deming advocated that, “the customer is the most important part of the production line”. This implies that quality should be focused on the needs of the customer, present and future. In concluding this stage, it is recommended that top management set up an effective quality management system that consistently involves the customer. The quality system will serve as a spring board for full implementation of TQM.

6.1.3 STAGE 3: Implementation process

The firm should successfully launch TQM in this entire organization with the aid of the seven critical success factors of TQM implementation (Top Management Commitment, Customer Focus, Employee Involvement, Education and Training, Reward and Recognition, Supplier Quality Management and Process Control and Improvement). It is essential that all the seven factors be considered at this stage. This is because from Chapter 5 (5.4.1) of this study on the average, respondents agreed that these seven CSFs enhance successful implementation. Implementing TQM is implementing the practice of these factors. At this stage, Top management and all employees must be responsible at this stage to ensure the success of the program. Further, the implementation stage, process control and continuous improvement allow individuals to be involved in the day-to-day operations to change and improve processes and work flows according to the set standard. Suppliers are important stake holders in firm’s quality management process. In view of this at the implantation stage firms should endeavor to ensure quality management at the supplier’s end. Firm should recall the adage that say “garbage in garbage out”. Also, Management should reward and recognize employees who make positive contributions to the success of TQM concept.

Rewards and recognition can be in many forms but it is always better to develop new ideas to suit the local situation for recognition. Top Management should be able to vote resources in training employees to be knowledgeable in quality management.

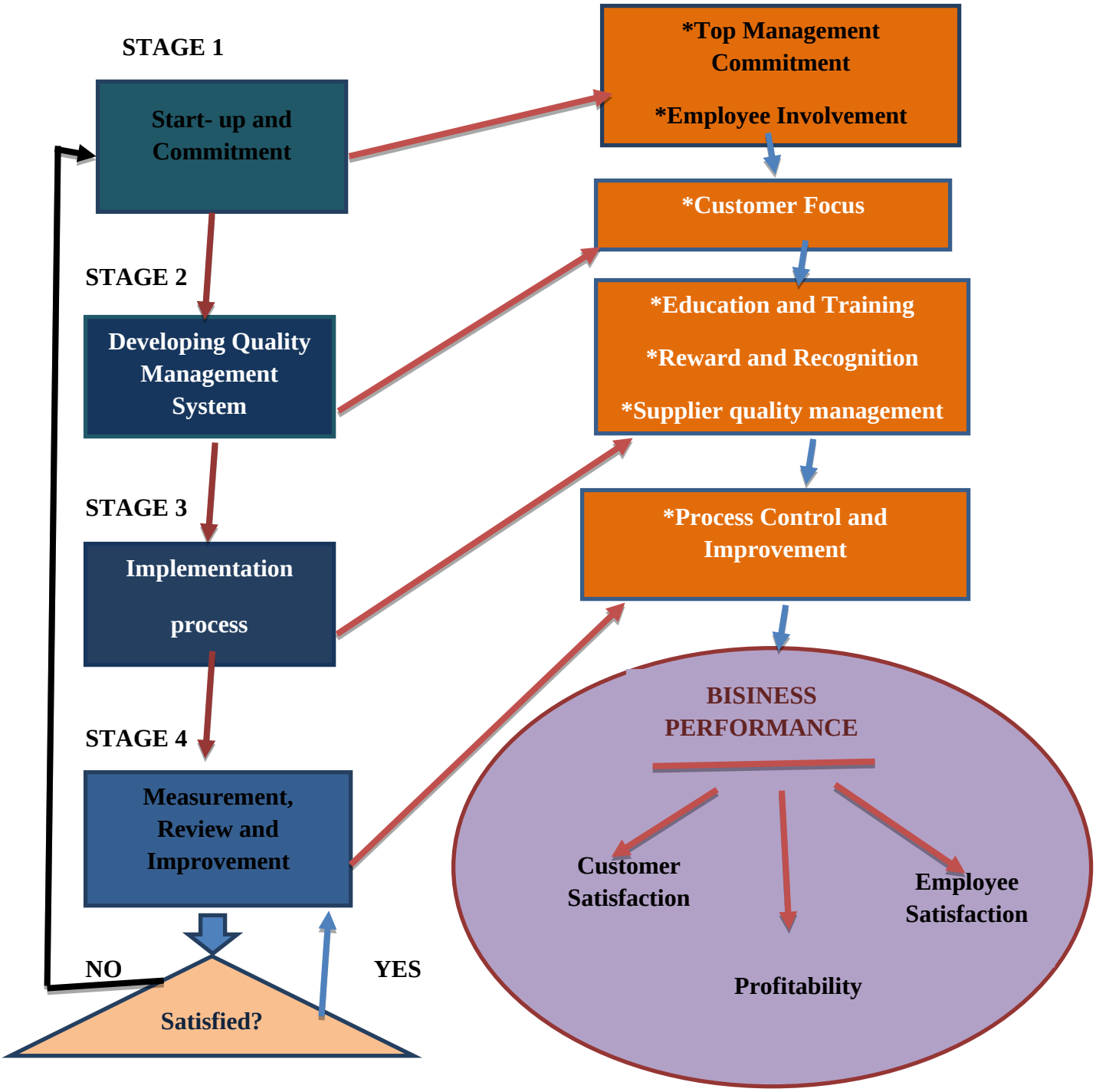
6.1.4 STAGE: 4 Measurements, Review and Improvement.

Firms, at this stage should develop specific measurement system that can better measure business performance in the area of Profitability, customer focus and employee satisfaction. The firm should continually measure its overall business performance, analyze and compare with the firm's goals and competitor's overall business performance. After measuring the business performance,the results should be analyzed to find out if result was favorable or not. If the outcome happens to be unfavorable, review for effective implementation. Reset back to the stage 1 similar to the PDCA cycle. On the other hand, if the implementation produces the desired results, the process just like the PDCA cycle is still considered to consolidate the results and improve in the never-ending cycle. This is to continuously and consistently meet and even exceed the never-ending need of the customer. SMEs just like large firms, should be guided by the fact that quality is like a rolling ball, what is quality today to a customer may not be quality to the same customer tomorrow hence the need for continuous improvement.

In conclusion, the framework will provide a roadmap for implementation, and it is very dependent on a company needs and current quality situation. From the diagram it can be seen that the framework is simple and can be easily understood by SMEs given the level of education identified in Chapter 5 (see Figure 5)

The ultimate objective of this proposed model is SMEs to harness the benefit of TQM on business performance with respect to Customer Satisfaction, Profitability and Employee Satisfaction.

Figure 5: Proposed TQM Implementation Framework



CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.0 Introduction

In this chapter, the researcher presents the summary and draw conclusion of this study. Additionally, recommendations based on the findings of this study will be provided in this chapter. These recommendations would be of significance to owners of SMEs, government policy makers, addition to literature and other stakeholders who are committed to achieving SMEs performance and sustainability.

7.1.0 Summary

The advent of globalization has resulted in increased competition amongst firms, as such firms of today are increasingly seeking different ways and approaches to achieve, improve, and sustain firm performance and competitive advantage. Owing to this, The Ghanaian economy today is more opened to the world especially with the signing of the Economic Partnership Agreement (EPA) with the European Union (EU). Globalization breaks barriers and provides increased access to lager market. Globalization also presents competition to local Ghanaian firms in which 92% are SMEs (Abor & Quartey, 2010). Notwithstanding the opportunities globalization presents, the mortality rate of SMEs in Africa remains very high. Some Researchers have posited that five out of seven new SMEs fail within the first year of operation (Adcorp, 2014; Yeboah, 2015). Okpara (2011) also indicated that most Small and Medium sized Enterprise (SME) do not outlive their second year of operation (Abor & Quartey, 2010; Okpara, 2011).

This alarming rate of business failure or, better still, the stagnation of SMEs growth gives the Ghanaian economy reason for concern. The survival of SMEs has been the focus of a number of recent reports in Ghana, which call for new strategic directions if SMEs wish to sustain their performance, competitiveness and financial success in the future (Mahmoud, 2011; Ohene-Konadu, 2008). This research uses the concept of total quality management to examine how SMEs achieve operational excellence. The study did that by first reviewing the extent to which TQM is practiced among SMEs in Ghana. The study also identified the critical success factors for implementing TQM as well as challenges hindering implementation. Extant literature was reviewed in relation to TQM concept, SMEs overview and presentation of the study conceptual framework. A quantitative design was adopted for this research. The study populations were Owner/ managers, employees and customers of SMEs in Ghana. However, due to resources constraint the researcher conducted the study on SMEs in Greater Accra operating in service and manufacturing sectors. With a sample size of 385 a proportionate sampling calculation was used to engage 256 service SMEs and 48 Manufacturing SMEs. The researcher administered questionnaires to 3 respondents (one owner/ managers, one employee and one customer) from each of the sampled SMEs. Out of the 1155 respondent the researcher reached out to, 877 successfully filled and returned the questionnaire. Data were sorted and coded for onward analysis. The research method / analytical technique used to analyze data were descriptive statistics with SPSS version 26 software and partial least square - structural equation modelling (PLS-SEM) with Smart PLS software. The findings of the research were presented and discussions were made in light of extant literature and the objective of the study.

7.1.1 Summary of Objective 1: Extent to which TQM is practiced among SMEs

Objective 1 was to examine the extent to which SMEs in Ghana practice TQM. The demographic of the respondents was first considered. It was found out that there were lots of female owner/ managers than male owners although there are more male employees than female employees. Over a half of the owners/ Mangers as well as employees were in their youthful ages and early adulthood (below 45). Majority of Owner/ managers have higher level of education (University education) where in the case of employee majority are secondary school graduates. The number of years the owner / manager has operated the firm revealed that less than 3 % of the SMEs in services have operated more than 7 years. Similarly, only 6.3 % of firms in manufacturing have operated more than 7 years. Majority of employees both in service and manufacturing sectors have worked in the firms not more than 7 years. In both cases over 90% of customers indicated that they have been transacting business with the firm for a period not exceeding 7 years. As part of examining the extent to which TQM is practiced among SMEs, characteristics of firms were looked at. Both SMEs in services and manufacturing shared similar characteristics. The dominant type of ownership according to owner/ managers is sole proprietorship firms. Sole proprietorship was followed by partnership and limited liability companies. Few firms were public / private partnership firms. Most SMEs in both manufacturing and services are registered with Registrar Generals Department and also have additional registration with other governmental and industry institution or association. Most of the owner/ managers indicated that they budget annually an amount ranging from Ghs1 to Ghs 99,000 and the predominant sources of funds being personal savings and bank loan. Generally, the concept of TQM is

not well known (low level) among SMEs in Ghana and there is a low level of perception about the concept among most SMEs. Most of the firms engaged do not have quality policy and review their quality policy yearly. With regards to implementation satisfaction for SMEs in services, it was found out that, there is low implementation satisfaction level. On the other hand, manufacturing SMEs have moderate- high satisfaction level. Comparing the practices of TQM in services and Manufacturing, it was observed that firms in manufacturing practice TQM more than firms in services. The overall situation in terms of practice of TQM among SMEs in Ghana is low level of practice.

7.1.2 Summary of findings of Objective 2: CSF of TQM Implementation

Extant review of literature revealed numerous CSFs for TQM implementation by different authors (Jahangiri, 2017; Salaheldin, 2003; Zakhuan et al. 2012; Oakland, 2014; Salaheldin 2009). The researcher however, after surveying the CSFs identified by these authors, sampled the predominant and most important ones that are common in the works of majority of these authors. This study therefore focused on seven of them, namely, Top Management Commitment (TMC), Customer Focus (CF), Employee Involvement (EIN), Education and Training (EN), Recognition and Awards (RR), Supplier Quality Management (SQM) and Process Control and Continuous Improvement (PCCI). On a 7-point Likert scale, Owner/managers, employees and customers were engage to respond to questions pertaining to these seven CSFs. The seven CSFS in addition to Business performance were the 8 constructs that the second objective looked at. The 8 constructs were first analyzed through a descriptive statistic. The grand mean of the 8 constructs indicated that respondents agree that TQM enhances business performance. The seven critical success factors were individually

analyzed to find out how respondents agree to it enhancing TQM implementation. Majority of the means of the 7 CSFs indicated that respondents agreed that CSFs enhances TQM implementation with reward and recognition having the highest mean of 5.86 while top management Commitment had the second highest mean of 5.80. Education and training had the lowest mean of 4.80 indicating that respondents where neutral. This mean that SMEs must come to the realization that rewarding and recognition employee's effort leads to a successful implementation of TQM. Again, Top Management Commitment must also be critically looked out if SMEs want to successfully implement TQM. The second part looks at the relationship between TQM and business performance. PLS- SEM was used to model the constructs to ascertain the relationship. First, the measurement model was assessed to test the reliability and validity of the indicator variables. Cronbach Alpha, Composite reliability and Average Variance Extracted (AVE) was used to test the model. After that, the researcher found out that the measurement model met all the reliability and validity tests, the structural model assessed. The structural model mainly helps to establish the causal relationship between the exogenous and the endogenous variables. Causality was established through the assessment of path coefficients, the standard error, t-test and p- values in addition to multicollinearity test. The result showed that, all the 7 CSFs had a significant effect on TQM implementation. Additionally, the result indicated that TQM enhances business performance.

7.1.3 Summary of finding of Objective 3: TQM implementation Challenges

Findings of the challenges that hinder TQM implementation among SMEs revealed a number of challenges that the researcher grouped into 5 broad categories. The 5 categories

are funds related challenges, challenges as a result of government policy or regulation, technology call challenges, employee related challenges and managerial challenges. The field data indicated that majority of them are unable to reap the full benefit of successful implementation of TQM due to funding problem. For instance, they indicated lack of funding to train their staff, lack of funding for expansion, due to funding challenges they are unable to conduct market research. Another notable challenge indicated by employee was managerial challenges, top management does not consider employees welfare rather they are concerned about employee meeting their numeric targets. Some indicated how the firms are handled by owner's family members who sometimes take conflicting decisions. Again, the findings indicated that government policies and (or) regulations sometimesaffect the successful implementation of TQM. For instance, the capital requirement to migrate from micro finance firm to a savings and loan, taxes on importation which affect production cost significantly that leaves little for improvement or capacity building. Another challenge that was revealed is employee related. Owners/ manager indicated that some employees' attitude to work, employee turnover especially with jobs without contract and jobs that pay on daily bases. This does not allow the firms to invest in employee development for the fear of them leaving the firm. Few customers also indicated some employees are not knowledgeable about the product of the firms hence do not educate customers on its full benefit. Again, inconsistency of firms in providing quality product always was of great concern to some customers.

7.1.4 Summary of finding of Objective 4: Proposal of TQM Implementation Framework

The researcher proposed an implementation model for SMEs to implement TQM upon finding on practice, identification of CSFs and barriers of implementation. The framework was developed in consultation of previously reviewed literature. The researcher developed the model with inspiration from the PDCA cycle by Deming. The framework comes in 4 stages namely: Stage 1 Start- up and Commitment, Stage 2 Developing Quality Management System, Stage3 Implementation process, Stage 4 Measurement, Review and Improvement. The framework will provide a roadmap for implementation, and it is very dependent on a company needs and current quality situation. The ultimate objective of this proposed frameworkfor SMEs is to ensure they harness the benefit of TQM on business performance with respect to Customer Satisfaction, Profitability and Employee Satisfaction.

7.2 Conclusion

It is concluded that SMEs have a low level of practice of TQM. Therefore, there is the need to adopt and implement TQM so as to enhance their business performance. Also, a conclusion is drawn that CSFs have significant relationship on successful implementation of TQM and the ripple effect on business performance. Lastly is concluded that SMEs are practicing low level of TQM because of notable challenges including, funding, technological, and governmental, employee and managerial related challenges. The researcher has proposed a framework that SMEs can follow to successfully implement TQM to enhance their business performance. The researcher believes SMEs will be able to

improve upon their performance through improvement of TQM implementation and practice when the aforementioned challenges are dealt with.

7.3 Recommendation

For SMEs to be able to consistently provide quality product and superior services to customers in other to continue to survive in the market place they will need to adopt and implement TQM OR improve upon the practices for the few SMEs that have implemented it. Based on this study the following recommendations were made.

7.3.1 Lessons for Practice

This research will bring SME Owner to the realization of the need to always find innovative way of improving upon their performance. Customers are dynamic with ever changing needs. What is quality today may not be quality tomorrow to the same customer. One of the companies the research engaged attested to the fact that they were doing well as a beverage producing firm in the early 2000s.They were member of the Ghana club 100 but because they failed to improve by introducing variety of flavors in their product, they lost huge share of their market. Next contribution in the area of practice is to recommend to owners or managers of SMEs to involve the customer in product design. SMEs should conduct market research and include customer feedback in their product design. This will enable them produce to meet the need of the customer. Again, employees should be adequately rewarded and recognized in order for them to give in their best in ensuring they practice quality in all their activities in the firm. It is also recommended that SMEs adopt and implement modern technologies in order to achieve high quality product and be competitive in the market place.

Modern technologies adoption will improve efficiency there by cutting down cost and increasing yield.

7.3.2 Lessons for Policy Implementation

Recommendations are made to Policy makers and related governmental institution. First this study recommends to government to investment in developing human Capital of the nation.This will facilitate easy understanding and adoption of TQM concept among players in the SME sector. Next it is recommended to government to cushion SMEs in the area of taxes, import duties and financial support. TQM is costly and from the findings of this research and studies by numerous authors SMEs have a relatively small working capital (Mahamoud 2011; Abor &Quartey, 2010; Ayeetey and Ahene, 2004; Fuseini, 2015; Mensah, 2014). This impedes the ability to fully implement TQM, hence the low- moderate level of TQM practice. Further, it is recommended to government to ensure the oversight bodies like the standard authorities, NBSSI, AGI among others provide SMEs with technical support that will ensure performance improvement and sustainability. Owners of SMEs can adopt and implement TQM by following the proposed framework.

7.3.3 Contribution to Knowledge

This study will add to Existing Literature on TQM and SMEs which will serve as a reference for academic works. Little is done in the area of TQM and SMEs in services, although this study is not entirely conducted on SMEs in service sector, it will throw light on SMEs in service sector in the Literature. Further research can be conducted on improvement model that the SMEs can follow to improve upon implementation success. Further research

can also look at SMEs only in-service sector. Lastly this research provides a path for comparative analysis of TQM Practice between SMEs and large firms in Ghana.

REFERENCES

Abdullah, M. M. B, Ahmad, Z. A & Ismail, A. (2008). ―The Importance of Soft Factors for Quality Improvement: Case Study of Electrical and Electronics Firms in Malaysia‖, *International Journal of Business Management*, Vol. 3, No. 12.

Adcorp (2012). New Business Start-ups Slump to Alltime Low. [Online] Available: http://www.adcorp.co.za/NEws/Pages/Newbusinessstartupsslumptoall-timelow.aspx. Accessed: 17th may, 2017

Abor, J. & Biekpe, N. (2005). Corporate Debt Policy of Small and Medium Enterprises in Ghana. *South Africa: University of Stellenbosch*.

Abor, J. & Quartey, P. (2010). Issues in SMEs in Ghana and South Africa. *International Research. Journal of Finance and Economics*, (39), 218-228.

Ackah, J., & Vuvor, S. (2011). The Challenges faced by Small & Medium Enterprises (SMEs) inObtainingCredit in Ghana. Retrieved from http://www.divaportal.org/smash/get/diva2:829684/FULLTEXT01.pdf (Accessed on13/04/2017).

Appiah-Adu, K., Singh, S. (1998). Customer orientation and performance: A study of SMEs. Management Decision, 36(6), 385-394

Adu- Darko, G. (2017) Entrepreneurial Leadership and Growth of Small Medium Enterprises: Lessons From Transformational Entrepreneurs In Ghana: (Master of Philosophy thesis University of Ghana, Legon, Ghana)Retrieved from http://ugspace.ug.edu.gh/handle/123456789/23254/ Accessed on 23/02/2018.

Akugri, M. S., Bagah, D. A., & Wulifan, J. K. (2015). The contributions of small and medium scale enterprises to economic growth: a cross-sectional study of zebilla in the bawku west district of northern Ghana. *European journal of business and management*, *7*(9), 262-274.

Alembummah, A. B. (2015). *Entrepreneurial Orientation and SME Growth: A Study of the Food Processing Sector of Ghana* (Doctoral dissertation, University of Ghana).

Amoako, G. K. (2013). Accounting practices of SMEs: A case study of Kumasi Metropolis in Ghana. *International Journal of Business and Management*, *8*(24), 73.

Antony, J., Leung, K., Knowles, G., & Gosh, S. (2002). Critical success factors of TQM implementation in Hong Kong industries. *International journal of quality & reliability management*, *19*(5), 551-566.

Asare, A. O. (2014). Challenges affecting SME's growth in Ghana.*OIDA International Journal of Sustainable Development, 7(6),* 23-28.

Asiedu, M. (2017). Innovation Among Small And Medium Scale Enterprises (SMEs) In Ghana: Assessing The Constraining Factors: (Master of Philosophy thesis University of Ghana, Legon, Ghana)Retrieved from http://ugspace.ug.edu.gh/handle// Accessed on 23/02/2018.

Aryeetey, E. & Ahene, A. A. (2004). Changing regulatory environment for small-medium size enterprises and their performance in Ghana. In CRC *3rd International Conference on Pro-poor Regulation and Competition: Issues, Policies and Practices, Cape Town, South Africa, September.*

Aryeetey, E. (2001). Priority Research Issues Relating to Regulation and Competition in Ghana. *Centre on Regulation and Competition Working Paper Series, University of Manchester, Manchester.*

Aryeetey E.T., Baah-Nuakoh, A., Duggleby, T., Hettige, H. & Steel, W. F. (1994). *Supply and Demand for Finance of Small Enterprises in Ghana*. World Bank Discussion Paper No. 251, Washington D.C.: World Bank.

Awal Mohammed (2018), "The rate of business failure unacceptable. Retrieved from: https://thebftonline.com/2018/business/education/rate-of-business-failure-unacceptable-awal/ Accessed on June 29, 2018.

Balbastre, F. & Moreno Luzo´n, M.D. (2003). ―Self-assessment application and learning in organizations: a special reference to the ontological dimension‖, Total Quality Management, Vol. 14 No. 3, pp. 367-88.

Banuro, F. Y., Ntiri-Amponah, A.& Banuro, J. K.(2017).Contradictions in TQM implementation:A proposed balance from the Ghanaian perspective. The TQM Journal Vol. 29 No. 4, 2017 pp. 564-578.Emerald Publishing Limited1754-2731

Barker, K.J. & Cagwin, D. (2000). ―*New evidence relating TQM to financial performance: An empirical study of manufacturing firms*". The University of Texas at Brownsville.

Bloor, M., & Wood, F. (2006). *Keywords in qualitative methods: A vocabulary of research concepts*. Sage

Boateng, R. (2016). Research Made Easy. Accra: Pearl Richards Foundation.

Bergman, B. & Klefjo, B. (2007). Quality: From Customer Needs to Customer Satisfaction,2nd

ed., Student literature, Sweden.

Bloor, M., & Wood, F. (2006). *Keywords in qualitative methods: A vocabulary of research concepts*. Sage

Burns, A. C., Bush, R. F., & Sinha, N. (2014). Marketing research (Vol. 7). *Harlow: Pearson*.

Calza, E., & Goedhuys, M. (2016). *Entrepreneurial heterogeneity and the design of entrepreneurship policies for economic growth and inclusive development* (No. 043). United Nations University-Maastricht Economic and Social Research Institute on Innovation and Technology (MERIT).

Chan, F. F. Y. (2015). A critical realist and multimethodology framework for product placement research. *Journal of Promotion Management*, *21*(3), 279-295.

Chin, W. W., & Newsted, P. R. (1999). Structural equation modeling analysis with small samples using partial least squares. *Statistical strategies for small sample research*, *1*(1), 307-341.

Chin, W. W. (2010). How to write up and report PLS analyses. In *Handbook of partial least squares* (pp. 655-690). Springer, Berlin, Heidelberg.

Chrusciel, D., & Field, D. W. (2003). From critical success factors into criteria for performance excellence–An organizational change strategy. *Journal of industrial technology*, *19*(4), 1-11.

Cook P. and NixsonF. (2000). Finance and Small Medium Enterprises Development. *IDPM, University of Manchester,Finance and Development Research Programme Working Paper Series*. Paper No 14.

Cuckovic, N., & Bartlett, W. (2007). Entrepreneurship and Competitiveness: The Europeanisation of Small and Medium- sized Enterprise Policy in Croatia. *Southeast European and Black Sea Studies*, 7(1), 37-56.

Curkoviv, S., Vickery, S. & Droge, C. (2000). ―Quality-related action programs: their impact on quality performance and firm performance‖, *Decision Sciences*, Vol. 31 No. 4, pp. 885-905.

Cyril Eze, U., Guan Gan Goh, G., Yih Goh, C., & Ling Tan, T. (2013). Perspectives of SMEs on knowledge sharing. *Vine*, *43*(2), 210-236.

Chartered Institute of Procurement and Supply: Supplier Management (2017). Retrieved from: https://www.cips.org/en/knowledge/procurement-topics-and-skills/srm-and-sc-management/supplier-development/. Accessed on July, 2018.

Dahlgaard-Park, S. M., Chen, C. K., Jang, J. Y., & Dahlgaard, J. J. (2013). Diagnosing and prognosticating the quality movement–a review on the 25 years quality literature (1987–2011). *Total quality management & business excellence*, *24*(1-2), 1-18.

Dahlgaard-Park, S. M., Reyes, L., & Chen, C. K. (2018). The evolution and convergence of total quality management and management theories. *Total Quality Management & Business Excellence*, *29*(9-10), 1108-1128.

Daniel, J. (2012). Choosing the type of probability sampling. *Sampling essentials*, 125-174.

Dayton, N.A. (2001). Total quality management critical success factors, a comparison: The UK versus the USA, Total Quality Management, 12 (3), 293-298.

Deming, W.E. (1986). *Out of Crisis*, Cambridge University Press, Cambridge, MA.

Deming, W. E. (1993). The New Economics. MIT Press. Cambridge, MA. 135.Technology Centre.

De la Torre, A., Pería, M. S. M., & Schmukler, S. L. (2010). Bank involvement with SMEs: Beyond relationship lending. *Journal of Banking & Finance*, 34(9), 2280-2293.

Drew, E., & Healy, C. (2006). Quality management approaches in Irish organisations. *The TQM Magazine*, *18*(4), 358-371.

Edu, S (2013). Total Quality Management Practices Among Manufacturing Firms in Ghana. (Master of Philosophy thesis University of Ghana, Legon, Ghana).

Retrieved fromhttp://197.255.68.203/handle/1234466789/8354/ Accessed on 09/05/2017.

European Commission. (2010). What is an SME?https://ec.europa.eu/growth/smes/businessfriendly-environment/sme-definition_en (Accessed on 08/11/2017).

Everett, C. (2002). Penn State's commitment to quality improvement. Quality Progress, 35 (1), 44-49.

Fening, F. A., Pesakovic, G., & Amaria, P. (2008). Relationship between quality management practices and the performance of small and medium size enterprises (SMEs) in Ghana,

International Journal of Quality & Reliability Management, Vol. 25 Issue: 7, pp.694-708.

Fening F. A. (2012). Impact of quality management practices on the performance and growth of small and medium sized enterprises (SMEs) in Ghana. *International Journal of Business and Social Science.*;3(13): 1-13.

Fitzsimmons, J. A., & Fitzsimmons, M. J. (2011). *Service management: Operations, strategy, and information technology*(7th Ed): McGraw-Hill.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-5

Frimpong, C. Y. (2013). Strengthening SMEs in Ghana. Retrieved from www.reflexecogroup.com/news/1209-strengthening-smes-in-ghana/ Accessed on 14/08/2017.

Fu, S. L., Chou, S. Y., Chen, C. K., & Wang, C. W. (2015). Assessment and cultivation of total quality management organisational culture–an empirical investigation. *Total Quality Management & Business Excellence*, *26*(1-2), 123-139.

Fusieni, G. (2015).Small and Medium-Sized Enterprises (SMEs') Access to Credit in Ghana: Determinants and Challenges(Master of Philosophy thesis University of Ghana, Legon, Ghana)

Retrieved fromhttp://197.255.68.203/handle/123456789/8354/ Accessed on 03/04/2018.

Frederick, S., Bair, J., & Gereffi, G. (2015). Regional trade agreements and export competitiveness: the uncertain path of Nicaragua's apparel exports under CAFTA. *Cambridge Journal of Regions, Economy and Society*, rsv015.

Ghana Statistical Service, (2015). Integrated Business Establishment Survey Regional Spatial Business Report, Accra. Ghana.

Ghauri, P.N. and Gronhaug, K. 2005. *Research methods in business studies: A practical guide*, London: Pearson.

Goetsch, D. L., & Davis, S. (2014). *Quality management for organizational excellence: Introduction to total quality*.

Gotzamani, K. D., Theodorakioglou, Y. D., & Tsiotras, G. D. (2006). A longitudinal study of the ISO 9000 (1994) series' contribution towards TQM in Greek industry. *The TQM Magazine*, *18*(1), 44-54.

Hackman, J. R., & Wageman, R. (1995). Total quality management: Empirical, conceptual, and practical issues. *Administrative science quarterly*, 309-342.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.

financial performance‖, Measuring Business Excellence, Vol. 6 No. 4, pp. 44-54.

Harris, M. L., & Gibson, S. G. (2006). Determining the common problems of early growth small businesses in Eastern North Carolina. *SAM Advanced Management Journal*, 71(2), 39

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*(1), 115-135.

Hinson, R. E., & Mahmoud, M. A. (2011). Qualitative insights into market orientation in small Ghanaian businesses. *International Journal of Marketing Studies*, 3(1), p35.

Imeokparia, P. O., & Ediagbonya, K. (2014). Small and Medium Scale Enterprises (SMEs): A Catalyst in Promoting Economic Development in Nigeria. *Small*, 5(33).

Imran M., Hamid, S. N.B. A.& Aziz, A. B (2018). The influence of TQM on export performance of SMEs: Empirical evidence from manufacturing sector in Pakistan using PLS-SEM. Management Science Letters 8, 483–496.

ISO, B. (1994). 8402: Quality management and quality assurance. Vocabulary. *The International Organisation for Standardization*.

Jahangiri, R. (2017). Identification of critical success factors for total quality management implementation in organisations.

Karadag, H. (2015). The Role and Challenges of Small and Medium-sized Enterprises (SMEs) in Emerging Economies: An Analysis from Turkey. *Business and Management Studies*, 1(2), 179-188.

Knight, G. (2000). Entrepreneurship and marketing strategy: The SME under globalization. *Journal of International Marketing*, *8*(2), 12-32.

Kayanula D& Quartey, P. (2000). The Policy Environment for Promoting Small and Medium Sized Enterprise in Ghana and Malawi. *Finance and Development Research Programme* Working Paper . Series No.15.

Karani, S. & Bichanga, W. O. (2012). ―Effects of Total Quality Management implementation on business performance in service institutions: A case of Kenya Wildlife Services*" International Journal of Research Studies in Management*, Volume 1 Number 1, 59-76

Ketikidis, P. H., Koh, S. L., Gunasekaran, A., Demirbag, M., Tatoglu, E., Tekinkus, M., & Zaim, S. (2006). An analysis of the relationship between TQM implementation and organizational performance. *Journal of manufacturing technology management*.

Kwamega, M., Li, D.& Ntiamoah, E. B. (2015). Role of Total Quality Management (TQM) as a Tool for Performance Measurement in Small and Mediumsized Enterprise (SME'S) in Ghana. British Journal of Economics, Management & Trade, Vol. 10 No. 3, pp. 1-10.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Kuhn, T. S. (2012). *The structure of scientific revolutions*. University of Chicago press.

Kuada, J. E. (2015). Thesis without Tears. London, U.K.

Kumar, V., De Grosbois, D., Choisne, F., & Kumar, U. (2008). Performance measurement by TQM adopters. *The TQM Journal*, *20*(3), 209-222.

Kusi, A., Opata, C. N., & Narh, T. W. J. (2015). Exploring the factors that hinder the growth and survival of small businesses in Ghana (a case study of small businesses within Kumasi metropolitan area). *American Journal of Industrial and Business Management*, *5*(11), 705-723

Kivunja, C., & Kuyini, A. B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of higher education*, *6*(5), 26-41.

Lau, H.C. & Idris, M.A. (2001). ―The Soft Foundation of the Critical Success Factors on TQM Implementation in Malaysia‖, *The TQM Magazine*, 13(1), 51 – 60.

Leedy, P. & Ormrod, J. (2001). *Practical research: Planning and design.* (7th Ed.). Upper Saddle River, NJ: Merrill Prentice Hall. Thousand Oaks: SAGE Publications.

Li, E., Zhao, X. & Lee, T.S. (2001). Quality management initiatives in Hong Kong's Banking industry: a longitudinal study. *Total Quality management*, 12 (4), 451-468.

López, G. J. & Aybar, A. C. (2000). An Empirical Approach to the Financial Behaviour of Small and Medium Sized Companies. *Small Business Economics*, *14*(1), 55-63.

McGivern, Y. (2009). *The practice of market research: An introduction*. Pearson Education.

Mahmoud, M. A. (2011). Market orientation and business performance among SMEs in Ghana. *International Business Research*, 4(1), 241.

Malhotra, N. K., & Birks, D. F. (2007). Marketing research: An applied approach. Pearson Education.

Malhotra, N., & Birks, D. (2006). Marketing Research: An Applied Perspective. Pearson Education.

Mallur, S., Hiregouder, N. L., & Sequeira, A. H. (2012). The relationship between TQM practices and business excellence in small and medium sized manufacturing enterprises of north Karnataka region.

Mann, R., & Kehoe, D. (1995). Factors affecting the implementation and success of TQM. *International Journal of Quality & Reliability Management*, *12*(1), 11-23.

Motwani, J., Prasad, S., & Tata, J. (2005). The evolution of TQM: An empirical analysis using the business process change framework. *The TQM Magazine*, *17*(1), 54-66.

McCann, P., & Ortega-Argilés, R. (2016). Smart specialisation, entrepreneurship and SMEs: issues and challenges for a results-oriented EU regional policy. *Small Business Economics*, *46*(4), 537-552.

Mele, C., Colurcio, M. (2005). The evolving path of TQM: towards business excellence and stakeholder value. *International Journal of Quality & Reliability Management*, 23(5), pp. 464-489

Mensah, S. (2004). A review of SME financing schemes in Ghana. Paper presented at the UNIDO Regional Workshop of Financing Small and Medium Scale Enterprises, Accra, Ghana, 15th to 16th March, 2004.

Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: A sourcebook. Beverly Hills: Sage Publications.

Motwani, J., Prasad, S., & Tata, J. (2005). The evolution of TQM: An empirical analysis using the business process change framework. *The TQM Magazine*, *17*(1), 54-66.

Motwani, J. (2001). Critical Factors and Performance Measures of TQM, The TQM Magazine, 13(4), 292 - 300.

Nabitz, U., Klazinga, N., & Walburg, J. A. N. (2000). The EFQM excellence model: European and Dutch experiences with the EFQM approach in health care. *International Journal for Quality in Health Care*, *12*(3), 191-202.

Nkuah, J. K., Tanyeh, J. P. & Gaeten, K. (2013). Financing Small and Medium Enterprises (SMEs) In Ghana: Challenges and Determinants in Accessing Bank Credit. *International Journal of Research in Social Sciences*, 2(3), 12-25.

Oakland, J. S. (2014). *Total quality management and operational excellence: text with cases*. Routledge.

OECD. (1997). *Globalisation and Small and Medium Enterprises, Synthesis Report*, Organisation for Economic Cooperation and Development.

Ofori-Amanfo, J. (2014). Supply management capabilities and operations performance of UK manufacturing small and medium sized *enterprises (SMEs)* (Doctoral

dissertation, University of Leeds).Retrieved from /http://etheses.whiterose.ac.uk/id/eprint/7795. (Accessed on 14 may, 2018)

Okpara, J. O. (2011). Factors constraining the growth and survival of SMEs in Nigeria: Implications for poverty alleviation. *Management Research Review, 34*(2), 156-171.

Ohene-Konadu, N. (2008). "Northern Region gets $119m support for SMEs", Daily Graphic, Accra, Ghana, April 11.

Paul, S., Whittam, G., & Wyper, J. (2007). The pecking order hypothesis: does it apply to startup firms? *Journal of Small Business and Enterprise Development*, 14(1), 8-21.

Powell, T.C. (1995), "TQM as competitive advantage: a review and empirical study", *Strategic Management Journal*, Vol. 16, pp. 15-37.

Potter, J. (1996). *Representing reality: Discourse, rhetoric and social construction*. Sage.

Psomas, E. L., Fotopoulos, C. V., & Kafetzopoulos, D. P. (2010). Critical factors for effective implementation of ISO 9001 in SME service companies. *Managing Service Quality: An International Journal*, *20*(5), 440-457.

Pun, K.F., Y. Xu & Chan, J.S.F. (2002). An AHP Based Study of Critical Factors for TQM Implementation in Shanghai Manufacturing Industries, Technovation, 22, 707 - 715.

Panuwatwanich, K., & Nguyen, T. T. (2017). Influence of Total Quality Management on performance of Vietnamese construction firms. *Procedia Engineering*, *182*, 548-555.

Rahman, Z., & Siddiqui, J. (2006). Exploring total quality management for information systems in Indian firms: application and benefits. *Business Process Management Journal*, *12*(5), 622-631.

Rao, S.S., Solis, L.E., & Ragunathan, T. (1999). ―A Framework for International Quality Management Research: Development and Validation of a Measurement Instrument‖, *Total Quality Management*, 10, 1047-1075.

Robson, C. (2002). Real world research. (2nd. Ed). Blackwell Publishing. Malden.

Robson, P. J. A., Haugh, H. M., & Obeng, B. A. (2009). Entrepreneurship and innovation in Ghana: Enterprising Africa. *Small Business Economics, 32*(3), 31-50.

Reid, R. D & Sanders, N. R. (2013)."*Operations Management: An Integrated Approach*", 5th ed., International Student Version, John Willey and Sons Inc.

Rougan, D. (2015). A Study on TQM Development, Performance and Sustenance in Service Industries through Effective Communication, Critical Success Factors and Market Orientation. *Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 17, Issue 1, PP 01-12.*

Russell S. R. & Taylor III, B. W. (2011). *Operations Management- Creating value along the Supply Chain,*7th ed. Chapter 2, pp. 56-97. John Wiley and Sons.

Salaheldin, S. (2003). ―The implementation of TQM strategy in Egypt: a field-force analysis, *The TQM Magazine*, Vol. 15, No. 4, pp. 266-274.

Salaheldin, S.I. (2009). ―Critical success factors for TQM implementation and their impact on performance of SMEs‖, *International Journal of Productivity & Performance Management*, Vol. 58 No. 3, pp. 215-37.

Sadikoglu, E. & Olcay, H. (2014). The Effects of Total Quality Management Practices on Performance and the Reasons of and the Barriers to TQM Practices in Turkey. Hindawi Publishing Corporation, Advances in Decision Sciences Volume 2014, Article ID 537605: http://dx.doi.org/10.1155/2014/537605

Sarstedt, M., Ringle, C. M., Henseler, J., & Hair, J. F. (2014). On the emancipation of PLS-SEM: A commentary on Rigdon (2012). *Long range planning*, *47*(3), 154-160.

Saunders, M. L., & Lewis, P. & Thornhill, A. (2009). *Research methods for business students. (4th Ed). Harlow*: FT Prentice Hall.

Sauser, W. I. (2005). Starting your own business? Prepare for success. *SAM Management in Practice*, *3*(1), 1-4.

Schmiemann, M. (2008). Enterprises by size class-overview of SMEs in the EU. *Statistics in focus*, 31, 2008.

Senzu, T. (2014, October 19) 92% of companies in Ghana are SMEs- BASTIAT Ghana report. Retrieved fromhttps://www.myjoyonline.com/business/2014/October-19th/92-of-companies-in-ghana-are-smes-bastiat-ghana-report.php

Sharma, M., & Kodali, R. (2008). TQM implementation elements for manufacturing excellence. *The TQM Journal*, *20*(6), 599-621.

Shea, J. & Gobeli, D. (1995). ―TQM: the experiences of ten small businesses‖, *Business Horizons*, Vol. 38 No. 1, pp. 71-7

Sila, I & Ebrahimpour, M. (2002). ―An investigation of the total quality management survey based on research‖, *International Journal of Quality and Reliability Management*, Vol. 19 No. 7, pp. 902-970.

Sila, I. (2007). ―Examining the effects of contextual factors on TQM and performance through the lens of organizational theories: an empirical study‖, *Journal of Operations Management*, Vol. 25, pp. 83-109.

Steel, W. F. & Webster, L. M. (1991). *Small Enterprises in Ghana: Responses to Adjustment Industry*. Series Paper, No. 33. The World Bank Industry and Energy Department, Washington DC.

Stevenson, W. J. (2014*). Production and Operations Management*, McGraw-Hill.

Stevenson, W.J. (2014) Operations Management. 12th Edition, McGraw-Hill Education, New York.

Storey, D, (1994). "Understanding the Small Business Sector", Routledge, London.

Taherdoost, H. (2016). Sampling methods in research methodology; How to choose a sampling technique for research.

Taiwo, J. N., Falohun, T. O., & Agwu, M. E. (2016). SMES financing and its effects on Nigerian economic growth. *European Journal of Business, Economics and Accountancy*, 4(4).

José Tarí, J. (2005). Components of successful total quality management. *The TQM magazine*, *17*(2), 182-194.

Taylor, S. J., & Bogdan, R. (1984). Introduction to qualitative research methods: The search for meaning. (2nd Ed), John Wiley & Sons, Canada.

Teal, F. (2002). Background Information on Use of Dataset: Regional Project On Enterprise Development (RPED) Ghana Manufacturing Sector Survey Waves IV (1992-98). *Centre for the Study of African Economies, Institute of Economics and Statistics, University of Oxford, St. Cross Building, Manor Road, Oxford, OX1 3UL*

Tetteh-Ossom, H. P. (2013). Causes of Credit Non-Payment in Commercial Banks: SMEs' Perspective. Doctoral dissertation. KNUST.

Thiagarajan, T., Zairi, M. and Dale, B.G. (2001). A proposed model of TQM implementation based on an empirical study of Malaysian industry. *International Journal of Quality and Reliability Management*, Vol. 18, No. 3, pp. 289-306.

Yamane, Taro. 1967. Statistics, An Introductory Analysis, 2nd Ed., New York: Harper and Row

Yang, C. C. (2006). The impact of human resource management practices on the implementation of total quality management: An empirical study on high-tech firms. *The TQM Magazine*, *18*(2), 162-173.

Yeboah, A. M. (2015). Determinants of SME Growth: An Empirical Perspective of SMEs in the Cape Coast Metropolis, Ghana. *The Journal of Business in Developing Nations*, 14.

Yusof, S. R. M., & Aspinwall, E. (1999). Critical success factors for total quality management implementation in small and medium enterprises. *Total Quality Management*, *10*(4-5), 803-809.

Yusof, S. R. M., & Aspinwall, E. M. (2000). Critical success factors in small and medium enterprises: survey results. *Total quality management*, *11*(4-6), 448-462.

Yusof, S. R. M., & Aspinwall, E. (2001). Case studies on the implementation of TQM in the UK automotive SMEs. *International Journal of Quality & Reliability Management*, *18*(7), 722-744.

Zakuan, N., Muniandy, S., Saman, M. Z. M., Ariff, M. S. M., Sulaiman, S., & Jalil, R. A. (2012). Critical success factors of total quality management implementation in higher education institution: a review. *International Journal of Academic Research in Business and Social Sciences*, *2*(12), 19.

Zakuan, N., & Yusof, S.M. (2007). A comparative study of quality practices and implementation for Malaysian automotive manufacturer: A review. In Proceedings of the 2nd International Engineering Convention (INTEC2007), 10–14 March Saudi Arabia, (pp. 51–58).

Zhang, Z., Waszink, A. B., & Wijngaard, J. (2000). An instrument for measuring TQM implementation for Chinese manufacturing companies. *International Journal of Quality & Reliability Management*, *17*(7), 730-755.

Zhang, Z. (2000). Developing a model of quality management methods and evaluating their effects on business performance. Total Quality Management, 11, 129–138.

World Bank (2012). *Doing Business 2013*. The World Bank: New York.

World Bank. (1993). *Global Economic Prospects.* The World Bank: Washington, DC.

World Health Organization. (2014). Ghana country assessment report on ageing and health

APPENDIX A

CROSS-LOADINGS OF CONSTRUCTS

	PERF	CF	ET	EIN	PMC	RR	SQM	TMC
CF1	0.052	**0.794**	0.066	-0.046	-0.062	0.178	0.125	0.152
CF2	0.073	**0.777**	0.077	-0.03	-0.063	0.146	0.1	0.049
CF3	0.143	**0.912**	0.143	0.019	0.015	0.2	0.193	0.172
CF4	0.077	**0.864**	0.102	-0.013	0.046	0.236	0.15	0.175
CF5	0.007	**0.623**	0.107	-0.124	-0.035	0.069	0.009	0.004
EIN1	0.396	0.075	0.466	**0.830**	0.329	0.501	0.506	0.527
EIN2	0.405	0.06	0.43	**0.821**	0.306	0.501	0.552	0.495
EIN3	0.378	-0.063	0.268	**0.745**	0.344	0.359	0.389	0.297
EIN4	0.291	0.087	0.29	**0.494**	0.159	0.416	0.367	0.324
EIN5	0.396	0.044	0.437	**0.726**	0.263	0.393	0.374	0.406
EIN6	0.276	-0.073	0.222	**0.686**	0.232	0.25	0.253	0.185
EIN7	0.337	-0.128	0.235	**0.756**	0.326	0.282	0.277	0.278
ET1	0.381	0.156	**0.905**	0.434	0.265	0.457	0.4	0.397

ET2	0.371	0.183	**0.913**	0.377	0.242	0.476	0.364	0.328
ET3	0.268	-0.062	**0.767**	0.329	0.145	0.357	0.239	0.281
ET4	0.076	-0.28	**0.169**	0.164	0.139	0.124	0.162	0.136
ET5	0.058	0.161	**0.527**	0.029	0.043	0.13	0.105	0.148
PERF1	**0.751**	0.154	0.341	0.353	0.255	0.406	0.365	0.335
PERF4	**0.876**	0.08	0.293	0.36	0.261	0.321	0.295	0.272
PERF5	**0.910**	0.062	0.369	0.433	0.325	0.382	0.331	0.376
PERF6	**0.913**	0.092	0.364	0.427	0.266	0.362	0.361	0.344
PERF7	**0.827**	0.091	0.328	0.4	0.227	0.322	0.335	0.313
PERF9	**0.749**	0.069	0.3	0.395	0.254	0.354	0.29	0.28
PMC1	0.217	0.076	0.241	0.313	**0.757**	0.258	0.311	0.243
PMC2	0.258	0.013	0.211	0.299	**0.813**	0.196	0.287	0.209
PMC3	0.288	0.018	0.181	0.4	**0.813**	0.277	0.287	0.212
PMC4	0.332	-0.041	0.208	0.261	**0.791**	0.255	0.269	0.212
PMC5	0.179	-0.07	0.228	0.321	**0.775**	0.229	0.287	0.177
PMC6	0.214	-0.035	0.135	0.277	**0.759**	0.205	0.245	0.146

RR1	0.25	0.119	0.263	0.322	0.107	**0.461**	0.315	0.434
RR2	0.309	0.241	0.351	0.393	0.179	**0.842**	0.453	0.529
RR3	0.346	0.207	0.437	0.373	0.208	**0.836**	0.533	0.547
RR4	0.436	0.185	0.511	0.496	0.312	**0.893**	0.575	0.588
RR5	0.364	0.167	0.407	0.49	0.327	**0.852**	0.483	0.528
RR6	0.338	0.126	0.627	0.429	0.234	**0.628**	0.467	0.407
SQM1	0.293	0.163	0.275	0.354	0.253	0.417	**0.784**	0.397
SQM2	0.082	0.268	0.064	0.084	0.007	0.200	**0.571**	0.174
SQM3	0.297	0.088	0.308	0.47	0.239	0.469	**0.844**	0.469
SQM4	0.387	0.194	0.426	0.512	0.335	0.588	**0.882**	0.535
SQM5	0.356	0.153	0.322	0.485	0.383	0.547	**0.895**	0.543
TMC1	0.365	0.191	0.311	0.385	0.249	0.549	0.546	**0.823**
TMC2	0.327	0.143	0.279	0.421	0.242	0.538	0.528	**0.877**
TMC3	0.134	-0.063	0.317	0.243	0.148	0.269	0.172	**0.517**
TMC4	0.326	0.2	0.389	0.466	0.214	0.614	0.503	**0.881**
TMC5	0.227	-0.001	0.309	0.333	0.118	0.37	0.267	**0.686**

Source: Field Data (2019)

APPENDIX B

QUESTIONNAIRE 1

OWNER/ MANAGER

TOTAL QUALITY MANAGEMENT: A CATALYST FOR OPERATIONAL EXCELLENCE IN SMALL AND MEDIUM SIZED ENTERPRISES (SME'S) IN GHANA.

INSTRUCTION: Please write or tick [√] where applicable

SECTION A: DEMOGRAPHIC INFORMATION OF RESPONDENTS

1. Gender: Male [ ] Female [ ]

2. Age range of respondent in years:

   18-24 [ ] 25-34 [ ] 35-44 [ ] 55-65 [ ] 65- above [ ]

3. Educational level: Non formal [ ] Primary Education[ ]
   Secondary Education [ ] University [ ] professional [ ]

4. Years in Business: Below 1 year [ ] 1 – 3[ ] 4-7 [ ] above 7 years [ ]

SECTION B: COMPANY CHARACTERISTICS

Type of Industry: Service [ ] Manufacturing [ ]

5. Type of firm ownership: Sole proprietorship [ ] partnership [ ]
   Limited Liability [ ] Public owned [ ] public/ private Ownership [ ]

6. Is the firm registered with registrar General's Department? Yes [ ] No [ ]

7. Other institution / association registered with……

8. What is the annual budget for the firm?

   ……

9. What is the major source (s) of fund for the firm?

   …….....

10. Is the firm aware of the Total Quality Management Concept? YES [ ]
    NO [ ]

11. In your opinion, what is the Perception level of TQM in the organization?
    Low [ ] Moderate [ ] High [ ]

12. Do you have a quality policy? YES [ ] NO [ ]

13. How often does the firm review its quality policy: Monthly [ ] Quarterly [ ]
    Half yearly [ ] Yearly [ ] Every two years [ ]

14. Which of the seven quality tools does your firm use in identifying product defect?
    1. Pareto charts 2). Flow Charts 3). Scatter Diagram 4). Fish Bone/ Ishikawa Diagram 5). Histogram 6). Check Sheet 7). Statistical Control Charts

15. In your opinion, what is the satisfaction level of TQM implementation and practice in the organization: Low [ ] Medium [ ] High [ ]

SECTION C: HOW THE CRITICAL SUCCESS FACTORS EHANCE TQM IMPLEMENTATION

1. Please indicate how much you agree with these statements that CSFs help in implementing TQM on a scale of 1-5.

• **Top Management Commitment**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Top management active participation in the implementation of quality management programs and follow-up of its quality management Program.					
Top management activeinvolvement in establishing and communicating the company's vision, goals, plans, and values for quality program.					
Top management encouraging employee involvement in quality management activities					
Top management providing substantial financial support for the company's quality management and productivity improvement programs.					
The company ensuring its benchmarking activities result in significant improvement in the company's quality performance					

• **Customer Focus**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Treating Quality-related customer complaints with top priority.					
Conducting market research in order to collect suggestions for improving our products.					
Adding customer feedback as an important input in improving the quality of the company's products.					
Having a customer complaint unit that liaises with the production unit.					
Conducting a customer satisfaction survey every year.					

• **Employee Involvement**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Employees active involvement/ representation at all decision making andother activities					
Encouragement of employees to make suggestions.					
making avenue for reporting work problems in our firm					
Stimulating innovation andcreativity in employees to enhanceproblem solving capability and attitude.					

Organizing cross-functional teams to get employeesinvolved in the company's quality management Programs by top management					
Making employees responsible for quality.					
Allowing employees to take action.					

• **Education and Training**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Top management learns and alwaysupdating their knowledge in qualityrelated concepts and skills.					
Availability of resources for employee education and training in our firm					
Training employees on how to use quality management methods (tools).					
Creating a support system thatencourages employees to undertakecourse, workshop, seminars andconferences to improve their capabilities					
Constant reminder / awareness education to employees					

• **Recognition and Reward**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Improving conditions in order to recognize employee qualitymanagement efforts.					
Initiating salary promotions scheme to encourage employee participation in quality management					
Rewarded Excellent suggestions financially.					
Promotions based on work quality.					
Recognizing and rewarding activities effectively to simulate employeecommitment to quality management.					
The organization of annual dinner and awards night.					

• **Supplier Quality Management**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
establishing long term mutual support relationship with suppliers					
Focusing on product quality as the most important factor in selecting Suppliers.					
Our firm regularly conducts supplierquality audit.					

Giving feedback on the performance of suppliers' products					
Proving financial and technical support to suppliers to improve quality and ensure continues supply.					

• **Process management and continuous improvement**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Regular system audit and production equipment according to the maintenance plan.					
Eliminating waste in the process					
Top management focusing on product quality rather than numeric target					
Implementing variousinspections and quality control tool effectively (e.g., incoming, process andfinal products)					
Continuously adopting newtechnology and equipment which helps in improving quality					

SECTION D: TQM AND PERFORMANCE

2. Please circle the number of the response that best represents the level of agreement to influence on business performance.

1= Strongly Disagree 2= Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

STAETMENT	DEGREE OF AGREEMENT
Customer Satisfaction	
1. Repeated business by customers as well as referrals for new business by customers has increased.	1 2 3 4 5
2. Decrease numbers of products/service defects, errors, or failures found by the customer	1 2 3 4 5
3. Reduction in the number of customer complaints.	1 2 3 4 5
4. **Profitability**	1 2 3 4 5
5. Increase in sale turn over due to improved product performance.	1 2 3 4 5
6. Cost reduction.	1 2 3 4 5
7. Return on asset due to organization wide culture of quality	1 2 3 4 5
Employee Satisfaction	1 2 3 4 5
1. Improvement Employee satisfaction due training and usage of modern technology, improvement productivity hence salary	1 2 3 4 5
2. Increasethe number of employees Satisfaction leading to employee participating on quality teams	
3. Reduction in employee turnover.	

SECTION B: TQM Implementation Challenges

1. What are the challenges faced by the firm in the implementation of Total Quality Management?

   .....

   …….

……..

……

2. Any comment (s) …….....

……

……..

……..

<u>QUESTIONNAIRE 2</u>

EMPLOYEE

TOTAL QUALITY MANAGEMENT: A CATALYST FOR OPERATIONAL EXCELLENCE IN SMALL AND MEDIUM SIZED ENTERPRISES (SME'S) IN GHANA.

INSTRUCTION: Please write or tick [√] where applicable

SECTION A: DEMOGRAPHIC INFORMATION OF RESPONDENTS

1. Gender: Male [ ] Female [ ]

2. Age range of respondent in years:

   18-24 [ ] 25-34 [ ] 35-44 [ ] 55-65 [ ] 65- above [ ]

3. Educational level: Non formal [ ] Primary Education[ ]
   Secondary Education [ ] University [ ] professional [ ]

4. Years worked with the firm: Below 1 year [ ] 1 – 3[ ] 4-7 [ ]
   Above 7 years [ ]

SECTION C: HOW THE CRITICAL SUCCESS FACTORS EHANCE TQM IMPLEMENTATION

1. Please indicate how much you agree with these statements that CSFs help in implementing TQM on a scale of 1-5.

• **Top Management Commitment**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Top management active participation in the implementation of quality management programs and follow-up of its quality management Program.					

Top management activeinvolvement in establishing and communicating the company's vision, goals, plans, and values for quality program.					
Top management encouraging employee involvement in quality management activities					
Top management providing substantial financial support for the company's quality management and productivity improvement programs.					
The company ensuring its benchmarking activities result in significant improvement in the company's quality performance					

• **Customer Focus**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Treating Quality-related customer complaints with top priority.					
Conducting market research in order to collect suggestions for improving our products.					

Adding customer feedback as an important input in improving the quality of the company's products.					
Having a customer complaint unit that liaises with the production unit.					
Conducting a customer satisfaction survey every year.					

• **Employee Involvement**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Employees active involvement/ representation at all decision making andother activities					
Encouragement of employees to make suggestions.					
making avenue for reporting work problems in our firm					
Stimulating innovation andcreativity in employees to enhanceproblem solving capability and attitude.					
Organizing cross-functional teams to get employeesinvolved in the company's quality management Programs by top management					
Making employees responsible for quality.					
Allowing employees to take action.					

• **Education and Training**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**

Top management learns and alwaysupdating their knowledge in qualityrelated concepts and skills.					
Availability of resources for employee education and training in our firm					
Training employees on how to use quality management methods (tools).					
Creating a support system thatencourages employees to undertakecourse, workshop, seminars andconferences to improve their capabilities					
Constant reminder / awareness education to employees					

• **Recognition and Reward**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Improving conditions in order to recognize employee qualitymanagement efforts.					
Initiating salary promotions scheme to encourage employee participation in quality management					
Rewarded Excellent suggestions financially.					
Promotions based on work quality.					
Recognizing and rewarding activities effectively to simulate employeecommitment to quality management.					

The organization of annual dinner and awards night.					

• **Supplier Quality Management**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
establishing long term mutual support relationship with suppliers					
Focusing on product quality as the most important factor in selecting Suppliers.					
Regularly conducts supplierquality audit.					
Giving feedback on the performance of suppliers' products					
Proving financial and technical support to suppliers to improve quality and ensure continues supply.					

• **Process management and continuous improvement**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**
Regular system audit and production equipment according to the maintenance plan.					
Eliminating waste in the process					

Top management focusing on product quality rather than numeric target					
Implementing variousinspections and quality control tool effectively (e.g., incoming, process andfinal products)					
Continuously adopting newtechnology and equipment which helps in improving quality					

QUESTIONNAIRE 3

CUSTOMER

TOTAL QUALITY MANAGEMENT: A CATALYST FOR OPERATIONAL EXCELLENCE IN SMALL AND MEDIUM SIZED ENTERPRISES (SME'S) IN GHANA.

INSTRUCTION: Please write or tick [√] where applicable

1. How long have you been a customer of this firm?

Below 1 year [ ] 1 – 3[ ] 4-7 [ ] above 7 years [ ]

2. Please indicate the extent to which the following statement best describe your experience with the firm as a customer, **on a scale of 1- 5.**

• **Customer Focus**	**Strongly Disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly Agree 5**

Quality-related customer complaints are treated with top priority.					
Our firm always conducts market research in order to collect suggestions for improving our products.					
Our firm conducts a customer satisfaction survey every year					
The firm produces products based on the Customer request.					
We have a customer complaint unit that liaises with the production unit.					

3. Any comment (S)……